GENESEE FARMER.

Agriculture is the most Healthy and Honorable, as it is the most Natural and Useful pursuit of Man.

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THE PROGRESS OF AGRICULTURAL KNOWLEDGE DURING THE LAST EIGHT YEARS.

THE above is the title of an extended and valuable essay by P. H. PUSEY, M. P., editor of the Journal of the Royal Agricultural Society, which appears in the last volume of that excellent work. The eight years immediately preceding the commencement of the last half of the 19th century, will long be remembered for the new impulse given to agricultural improvements in the most civilized and best-informed nations of Europe and America. It is within the period named, that farmers in England, and in this country have fairly comprehended the fact that agriculture is a science more varied and comprehensive than almost any other in the whole range of human knowledge. The successful study of its numerous phenomena and practical truths, is the work of a lifetime. Hitherto very little progress has been made in any country from the want of cordial co-operation for the advancement of knowledge between practical and scientific men. Mr. PUSEY thus alludes to the labors of BARON LIEBIG: "That eminent philosopher prepared and sold under a patent, manure containing the mineral ingredients so prepared as to be slowly soluble, and therefore to supply to wheat what was wanted, when it was wanted. Ammonia was omitted, it was thought it would be supplied by the air. The scientific manure was applied, but the wheat did not mend." The mineral theory then eagerly adopted was contained in the following axiom of LIEBIG:—"The crops in a field diminish or increase in exact proportion to the diminution or increase of the *mineral* subsances conveyed to them in manure."

This doctrine received its death-blow from Mr. LAWES' experiments at Rothamstead, in the following manner:—Plants, it is well known, consist chiefly of oxygen, hydrogen, nitrogen, and carbon; the gas first named forming water by uniting with the second, air with the third, and carbonic acid with the fourth. These invisible gaseous bodies form what are called the *organic* elements of plants. But when burnt, they all yield an incombustible ash, which is called the *inorganic*, or *mineral* part of vegetables. BARON LIEBIG's theory was that the supply of this earthy part of plants removed in crops was all that the farmer need trouble himself about. To test this chemical suggestion, Mr. LAWES tried sundry experiments with the following results:—An unmanured field gave 16¾ bushels of wheat per acre.—One manured with 700 lbs. of superphosphate of lime, (similar to burnt bones) yielded the same quantity. Eight lots fertilized with various phosphates, also gave 16⅜ bushels per acre. The ash of 14 tons of farm-yard manure gave but 16 bushels; while an equal quantity of manure gave 22. These four experiments demonstrated that on land devoid of mould or organic elements, fertilizers containing such elements are indispensable. Hence, BARON LIEBIG's theory that cereals can derive all their carbon and nitrogen from the atmosphere is proved to be incorrect. The subject, however, is far from being exhausted; for the question still remains to be decided how far carbon may be dispensed with in manure as in guano, and by what means ammonia or nitric acid can be most economically added to a soil in which one or both of these fertilizers are lacking. Ashes *alone*, whether of forest trees, crops, or good manure, will not suffice to give a fair yield of wheat on *exhausted* land. Upon land not exhausted, but abounding in rich soluble mould, the effect of wood ashes is very beneficial to wheat. When Mr. LAWES applied various salts to the amount of 619 lbs. to supply the mineral elements of a crop of wheat on exhausted land, without benefit, by the addition of 156 lbs. of rape seed cake, (nitrogenous matter,) the crop was increased from 16 to 22¾ bushels per acre. In another experiment, 646 lbs. of mineral salts aided by 80 of sulphate of ammonia, the crop was raised from 16 to 26¼ bushels. This result is the more noticeable from the fact, that no carbon, (coal,) was added to the soil in the manure; while the supply of nitrogen, sulphur, phosphorus, potash, magnesia, chlorine, &c., was abundant.

The scientific reader will not fail to weigh the fact that 80 lbs. of sulphate of ammonia increased a crop of wheat from 16 to 26¼ bushels, while 14 tons of barn-yard manure increased it only to 22 bushels. Mr. LAWES and Mr. PUSEY ascribe this remarkable gain to the available nitrogen in the ammonia; but we think that the *sulphur* in the fertilizer contributed to the result. Mr. PUSEY says "upon these experiments rests the now established doctrine that nitrogen is what white crops require. And it may generally be assumed for practical purposes, that if ammonia be supplied to wheat, it will find the mineral ingredients for itself, either in the soil or in past or present dressings." This is doubtless true, especially on highly manured land in England.

Mr. LAWES' experiments on turnips are more complicated, and as the culture of this renovating crop is little practiced in this country, we shall pass on to

the next topic under review. Suffice it to say that carbonaceous manures, like the solid excrements of animals, and phosphates, do better for turnips, comparatively speaking, than ammonia, which operates so favorably on wheat. Mr. PUSEY says: "I am inclined to suspect that carbon has a much more active principle than we suppose, even in small quantities." The fertilizing power of oil is ascribed to this element; as is also that of pulverized bituminous coal. Water charged with carbonic acid has been found very useful in nourishing plants. "At present," says Mr. P., "we can only say that the three leading principles of manure are—

1, AMMONIA;
2, PHOSPHORUS; and probably
3, CARBON."

To the above we should add sulphur and potash.

The author discusses the subject of ammonia, phosphorus, and carbon, at considerable length, and gives due credit to BARON LIEBIG for being the first to suggest the use of sulphuric acid to dissolve bones for agricultural purposes. In this country the cost of this acid (oil of vitriol) is such as to forbid its general use. It is cheaper to boil bones to powder in lye, than to buy acid to dissolve them. If all the ammonia wasted in cities were saved, it would add immensely to the grain crops of the United States.

The power of gypsum to "fix" ammonia is discussed at length. Until it is dissolved it is valueless to form the involatile salt called sulphate of ammonia. Thus, the oil of vitriol, combined with lime to form gypsum, or plaster, can only leave the lime to unite chemically with ammonia, after the two salts, (carbonate of ammonia, and sulphate of lime,) are brought together in solution. Then the carbonic acid leaves the ammonia, and combines with the lime; while the sulphuric acid leaves the lime, and unites with the ammonia. This is what is called double decomposition. Dr. SPRENGEL recommends green vitriol (copperas or sulphate of iron) to fix ammonia in urine tanks; but its price is a serious objection.

By the important discovery of Mr. THOMPSON, substantiated by the experiments of Professor WAY, farmers in England are now using dry clay to deodorize manure, by absorbing all its gases. Mr. HUXTABLE found that putrid urine and offensive sewer water, in passing through seven or eight inches of loam, became pure as well as clear. Thus a deep loam is able to retain the manure committed to it, until the future crop requires nourishment. It is the present practice with the best English farmers to cover with the plow manure about four inches deep; and twelve inches of mellow soil should lie under it to retain all its fertilizing elements. *Loam* alone retains ammonia, *i. e.*, a mixture of clay and sand, for pure sand permits this volatile, and very soluble alkali, to escape readily.

In the matter of forming the fat, flesh, and milk of domestic animals, Mr. P. does full justice to the chemistry of physiology; at least so far as LIEBIG, BOUSSINGAULT, PLAYFAIR, and PAYEN are concerned. He has, however, overlooked the services of MULDER, whose profound researches we regard as second in importance to those of no other analyst in this department of chemical science. Our space is too limited for the discussion of physiology in this connection. At another time we will endeavor to give our readers some idea of the present condition of animal and vegetable chemistry in its bearings on rural affairs.

On the subject of agricultural meteorology, an extract is made from Prof. DOVE'S Chart, to illustrate by colored lines the variations of cold and heat on the surface of the earth, and how temperature is modified in England. Facts under this head can have but little interest out of the kingdom. If any of our readers desire to learn in which State of the Union the most water fell in 1850, we can inform them that Arkansas has the pre-eminence. In answer to letters by the proprietor of this journal from the Patent Office, many returns were received, and among others one from Arkansas stating that 85 inches of rain fell in the year 1850. We are collecting data on this interesting subject and in due time our readers shall have the benefit of the same.

This article is written on a *frosty* morning, in Rochester, on the 12th of April, after we have seen green peas in South Carolina and corn and figs much advanced in Georgia, this spring. The protracted cold weather in northern States is a great drawback on the profits of agriculture; and we are more than ever impressed with the necessity of draining all wet fields and places to warm the soil. Mr. PUSEY has some valuable remarks on *draining*, the substance of which with some of our own, will appear in our next.

TOBACCO CULTURE.

THE world is so given to the mastication of tobacco, and to smoking and snuffing the vile weed, that its production is just now one of the most profitable crops grown in the United States. Young plants are started very much like those of cabbage in small beds; often by burning brush to form ashes and kill all insects where the seed is sown. Tobacco needs a rich soil to do well, and it is an exhausting crop. The American Farmer, published in Baltimore, in the heart of a tobacco-growing region, has given several valuable essays on this subject. We copy the following from that journal, which is written by Mr. W. J. BLACKINSTONE, a gentleman who has had much experience in the production of tobacco, and is commended by the Farmer as "one of the best planters in Maryland":

"The first thing necessary to the successful cultivation of tobacco is early plants. I shall therefore begin with the preparation of tobacco beds. I do not know how the subject can be better treated of by me, than by giving my own practical experience. I select a virgin soil with an exposure from the east, south, to west. It is raked clean, it is then burned over with brush or small wood, then hoed to the depth of 3 or 4 inches, until the whole is reduced to a fine tilth; it is then laid off in ridges 4 feet wide and raked with a fine rake, the space between the ridges being the width of the hoe, the surface of the ridges as nearly level as possible; the ridges should be north and south if the location will admit of it—I then apply one four ox load of most *recently raised stable manure to* 400 *square yards, upon the surface,* and seed one table-spoonful of seed to 100 *sq. yds.*, and then pat with the hoe. The manure is raised thus: The stables are swept clean of all seeds, and then littered *with wheat straw:* the horses' long food is wheat straw, their manger *food, corn.* It is kept free from rain, and sun, until used upon the bed, and then equally distributed over the surface with the hand. Care should be taken that no lumps should be left on the bed, so as to prevent the seed from reaching the earth. No other covering should be used, as

the wheat straw in the manure is amply sufficient, and the best covering it can have. I then apply plaster at the rate of one bushel per acre, and when securly fenced in, either with a rail or hedge fence, the bed is completed. Brush should never be used as a covering, as it certainly from my knowledge gained by experience, retards the plants at least three weeks, and moreover renders them more liable to be destroyed by the fly, particularly when taken off. The straw should not be removed at all. It is no injury to the plants, on the contrary, a constant benefit. It keeps off the frost, and is a great protection against the fly. When the plants generally are up, I would top dress with drawn ashes,* hen manure, and plaster, mixed in the following proportions:—1 bushel drawn ashes, half a bushel of hen manure, 1 gallon of plaster, which will be sufficient for 400 sq. yds., to be repeated whenever washed off by the rain, unless the plants should indicate from their growth the absence of any necessity for further use. If the fly is bad, the mixture should be used whenever washed off, but always applied when the plants are dry—about noon is the best time. If a long drouth should come on, an occasional application of half the above compound, say twice a week, is the best preventive against its effects. Liquids should never be used except to promote the growth of plants in damp weather, and then are not necessary if the above mixture is used, as it will accelerate their growth as much as is desirable. I omitted to state as *indispensable*, that the bed should be *well drained, and kept at all times free from weeds and grass.* I have succeeded in raising plants in the mode above indicated for twelve years, without a failure. I work two farms, and one bed at each, the size being regulated according to the proposed crop, has been all that I have found it necessary to prepare within that time. No bed has been injured by the worm since I have adopted the above plan; before I have had them entirely destroyed when the plants were fit to set out, when the manure was incorporated with the soil. I would caution all who may adopt these suggestions, not to rake the bed after the manure is applied, as it will most certainly ruin it. Would any profit by the above, I would remind them that *personal attention is the best security against failure.*

"THE TIME AND MODE OF SOWING THE SEED.—The time must depend in a great measure upon the season; if wet, the bed can not be properly prepared. I have had good beds which were sown the 10th of January, and others as late as the 25th of March. The first good weather in February, say, (if it happen on,) the 20th, I would prefer, but as the weather is uncertain, the first opportunity that may offer between the middle of January and the last of March should be embraced, and that the time may not find us at fault, it would be well to have the brush or wood hauled in place, ready for use.

"I usually mix the seed with drawn ashes, a table spoonful, (the quantity for 100 sq. yds.) to a half gallon of ashes, and sow them with the hand, and that they may be as equally distributed as possible, make two sowings, one lengthwise, and the other crosswise the bed.

"The manner of protecting the young plants, as well from frost as from insects, I have indicated above in the application of stable manure with the wheat straw, upon the surface before seeding; it is an effectual protection against frost, and a great security against insects, and with the top dressing recommended above, to wit: 1 bushel of drawn ashes, ½ bushel hen manure, 1 gallon of plaster, mixed together, and put on 400 sq. yds. and repeated as often as circumstances may indicate, will prove as effectual a remedy against fly as can be devised. Soot added, would be an improvement perhaps, say 1 gallon.

"I have no doubt guano would be an excellent top dressing put on when the plants are dry, say at the rate of 100 lbs. to the acre, with plaster. I have never used it for that purpose, and therefore do not feel at liberty to do more than express an opinion of the probable good effects it might produce.

THE PERIOD AND METHOD OF SETTING OUT PLANTS.—Much depends upon the care and attention bestowed upon the bed as to the time when they will be fit to plant. I have usually had them fit to plant by the 15th of May, sometimes by the 1st of May, and then they require moist weather to transplant them, otherwise many would perish. The usual season for planting is from the 15th of May to the 1st of July; the first is considered early planting, the latter late planting, and in danger of an early frost.

The Method. They are drawn from the bed by the hand, and conveyed to the soil prepared for them, where they are transplanted one in each hill, a hole being made (by a planting stick, about 8 inches long, and 1¼ inches in diameter) to receive the roots which are compressed by the hand with the surrounding earth. If planted in hills, about 5 or 6 thousand to the acre, if in drills, from 7 to 8 thousand, according to the views of the planter; the usual distance in hills is 30 inches, in drills about 20 inches, by 30 inches the wide way—I would prefer 36 inches. If it is desired to make large tobacco, planting in hills at 3 feet distance each way is best; if fine tobacco, closer planting must be resorted to, either in hills or drills. Much depends upon the locality, as to which is the best mode of planting—there are various opinions—I have planted both ways this year. I plant in hills, and I am satisfied with the crop, as it is as good as any I have seen;

"The soil best adapted to the growth of tobacco is a light bright brittle soil—newly cleared land produces the finest and best tobacco, but the quantity is usually less per acre, than upon land of similar texture well manured. Land intended for tobacco as for all other cultivated crops, should be freed from water by thorough draining. Wet land causes it to french, as we call it, and renders it unfit for use. The leaves present the appearance of being frozen, and cannot be restored by any efforts again to healthfulness. Lands gently undulating are best suited to its growth, as they wash off any excess of moisture so injurious to the plants. Of all the manures I have ever tried, stable manure is to be preferred; it causes a quick growth, which is very desirable, if not absolutely necessary to the production of a good article. The quantity of stable manure generally raised on a farm being insufficient to manure a large field, the mixture of virgin soil taken from the woods, headlands, and ditches, with the stable manure, would much increase the planter's available means of manuring his grounds, and amply compensate him for the labor expended. Ashes are a valuable and lasting manure, but in dry seasons apt to fire the tobacco, unless plaster is used, which keeps it green and makes it coarse."

(To be continued.)

* "Drawn ashes" are leached ashes.

HOW TO MAKE VINEGAR.

We have several requests for information in making vinegar. We copy the following from the volume of the Genesee Farmer for 1846:

"Many people find it difficult to make good vinegar. When we moved to Wheatland, we found two barrels partly full of old cider standing in the sun, in the hope, on the part of the owner, that the cider would become acetic acid. A few grapes, and we believe some yeast, had been put into the barrels, but still the transformation would not take place. By the following process good vinegar was made in two or three days, and with closer attention might have been made in 36 hours:

One barrel was set up on end, the hoops started and the upper head taken out. The cider had been taken out below the middle of the barrel, so that the bung could be open to admit the air. Several small sticks were set on end in the barrel, on the upper extremeties of which pieces of shingle rested just above the surface of the cider. On these strips of shingle was placed a quantity of clean pine shavings, which happened to be at hand. With these the barrel was loosely filled. A pailful or two of the cider was drawn by tapping the barrel near the lower head, and warmed to blood heat, and made to trickle down over the whole surface of the shavings into the cider below. After this, sufficient heat was generated by the active chemical action, or acetous fermentation that followed, to keep the shavings at 98°, or thereabouts. So soon as the cider began to turn sour, a part of it was made to trickle dow a piece of old carpet like an untwisted rope, into the bung-hole of the other barrel of cider. This barrel was tapped, and the cider drawn and poured over the shavings, and also converted into good vinegar.

The *rationale* of making alcohol into acetic acid is this:

The alcohol found in cider, wine, beer, fermented milk, whiskey, &c., is made of elements contained in sugar and starch, which are elaborated by living plants in their fruit, like apples and grapes; and in seeds, as in corn, rye and barley. Starch and sugar are composed of elements precisely alike in character and quantity, viz: 12 parts of carbon, 10 of oxygen, and 10 of hydrogen. Before alcohol is formed of these elements, they combine with 2 atoms more of oxygen and hydorgen, and make *grape sugar.*—The formula of which is, 12 carbon, 12 oxygen, and 12 hydrogen. The formula of alcohol is 4 carbon, 6 hydrogen, and 2 oxygen. To make *two* atoms of alcohol will require 8 carbon, 12 hydrogen, and 4 oxygen. As *one* atom of grape sugar has 12 carbon, 12 hydrogen, and 12 oxygen, it is obvious that 8 parts of oxygen and 4 of carbon will be left from an atom of grape sugar after 2 atoms of alcohol have been formed. Now in making an atom of carbonic acid, oxygen combines with carbon in the ratio of 2 parts of oxygen to 1 of carbon, or 8 of O. to 4 of C. Hence we see *why* it is that in all vinous fermentation, whether in the domestic brewing of small beer, raising bread, or in making ale or whiskey in large establishments, fixed air, or carbonic acid gas, is generated.

To understand the transformation of alcohol in cider, beer, whiskey, or brandy, into vinegar, the unlearned reader will note the following facts: The composition of alcohol is 4 carbon, 6 hydrogen, and 2 oxygen. That of pure vinegar—anhydrous acetic acid—is 4 carbon, 6 hydrogen, and 3 oxygen. Water is composed of an atom of oxygen united with an atom of hydrogen, although the atom of oxygen is 8 times heavier than that of hydrogen. If 4 atoms of oxygen (which exists in the atmosphere) combine with 1 of alcohol, the composition of the latter will stand 4 C., 6 H., and 6 O.* Three atoms of the oxygen thus derived from the air unite with 3 atoms of the hydrogen in alcohol to form 3 atoms of water, which leaves 4 carbon, 3 hydrogen, and 3 oxygen, or an atom of pure vinegar, *diluted* in 3 atoms of water.

We omit to state the process of forming what chemists term *aldehyd*, intermediate between alcohol and acetic acid, as unimportant to the practical farmer. Practically, it is seen that to convert alcohol into vinegar, we have only to *oxidize* the alcohol.—This is done by exposing alcohol to the chemical action of the atmosphere, by spreading it over an immense surface of thin coiled up shavings for a short time. Warmth favors the chemical change. But when cider is confined from the air in a tight barrel, except with an open bung hole, and perhaps the neck of an inverted bottle in that, it may take three or four months to change it into vinegar. Every body knows that a high heat is generated when alcohol is burnt in a spirit lamp. This is owing to the formation of water by the chemical union of oxygen in the air with the 6 parts of hydrogen in 1 of alcohol. For the same reason heat is evolved in the shavings in a cider barrel when the alcohol in cider is transformed into acetic acid."

*C. stands for carbon. H. for hydrogen and O. for oxygen.

EXPERIENCE IN THE USE OF PLASTER.

Messrs. Editors:—I send you my short experience in the use of plaster and clover. I purchased my farm in June, 1847, it being what is called hard run. Being engaged in other business, I let it out to the neighbors, to be cropped. The ground that I had sowed with wheat was broken up in June, and cross plowed before sowing, and put in well. The next spring, (1848,) I sowed clover, four quarts to the acre. When the clover came up, I sowed plaster, 30 lbs. to the acre. The wheat was gathered and threshed, and the yield was only 6¼ bushels per acre, weighing 58 lbs. to the bushel. The clover grew up after harvest, and went to seed. I could have gathered, I think, at least two bushels of seed to the acre; but not having time to attend to it, I let it all rot on the ground. The next spring, 1849, I sowed it with plaster again, 30 lbs. to the acre. The clover grew up knee high. I plowed it down in June, cross plowed it on the first day of September, and sowed on the twelfth. Last harvest (1850) the yield was 33⅓ bushels of wheat per acre, weighing 62 lbs. to the bushel. Before plowing, I pastured the clover enough to pay for the clover seed and plaster, and the sowing of the same: so it leaves me a gain, in favor of clover and plaster, of 27 bushels to the acre.

This may not be called an experiment. It is true 1850 was a better year for wheat than 1848, where the land was in good condition; but where it was poor, the wheat dried up before it filled. A neighbor, not forty miles from here, had a piece of land in about as good condition as mine was in 1847. It yielded (taking his own words for it) 30 bushels on 5½ acres—not quite six bushels to the acre, and a poor article at that. After this, no one need say that he is too poor to buy clover seed and plaster.

C. W.—*Brimfield, O.*, 1851.

Condensed Correspondence.

Such a mass of matter has accumulated on our hands of late, mostly communications from practical farmers, that we are compelled to condense them or leave the greater part unpublished. Some of these it is necessary that we should give the present month, to be of any advantage the present season. We have, therefore, concluded to give a few pages in a condensed form, retaining, however, all the material statements.

PROPER TIME FOR FELLING TIMBER, &c.

Messrs. Editors:—Having for the past two years been a reader of your valuable paper, I consider myself under obligations to its Editors and Contributors for the pains taken to please, as well as to instruct its patrons in the various departments of our useful occupation. And, notwithstanding much ability and practical knowledge are displayed by most of its contributors, it is to be expected that all of them have something yet to learn, and are liable to be mistaken in what they feel well assured they perfectly understand.

In perusing the pages of the Farmer, I sometimes find what is not in accordance with my views; and, as truth is frequently elicited by comparing discordant opinions, and weighing assigned reasons, I have concluded, as briefly as possible, to notice a few subjects upon which I, or some others, want a little more light; and, perhaps, ask a few questions, and impart my mite of information, for the benefit of our great fraternity; provided, of course, the editors think my contribution worthy the room it would occupy.

First, I would advert to an extract from a letter on the proper time of felling timber, and the editorial remarks thereon, on page 11, of the current volume. If there is so great a difference in the durability of timber, cut in different seasons of the year, as the writer feels confident of, certainly it is a matter of importance to us to know it, and to know when is the right time; neither would we object to knowing the reasons therefor, as it might be well worth while to put by some of our ordinary business, urgent as it is, at the season proposed by the writer, if thereby we might save half the expense of fencing our farms.

When I was a boy, some thirty years ago, I was taught to cut bushes, for the purpose of killing them, just after they had completed their annual growth; the reason assigned was, the roots were exhausted by furnishing the material for their growth, and the sap that was necessary to enable them to withstand the effects of winter, was not returned to them but was still in the trunks and branches. Our late friend and devotee of agricultural improvement, Jesse Buel, wise as he was, entertained a theory as absurd as the above, that is, that the sap is in the alburnum or sap-wood in summer, and in the heart-wood in winter. Now provided the presence of sap, without reference to its condition, be the cause of the speedy decay of timber, then, of course, it would be best, if the sap occupies the roots in winter and the trunk and branches in summer, to cut timber of all kinds, and for all purposes, in the former season: but if the sap fills alternately the pores of the heart and sap-wood, then cut in summer, especially large timber, which is mostly heart-wood. But both of the above notions are, in my opinion, but notions, and without any foundation in truth. I concur in the remark of the editor, that "the proportion of sap or water in a green tree, varies but little in different seasons of the year, as compared with its dry matter." The condition of the sap at the time of felling timber, must then, in my opinion, be looked to as affecting its durability; and the relative strength of sticks that have been cut at different times, I would attribute to another cause than that of their cells being stored with starch and albumen. If timber is cut before the insoluble starch and albumen are, by the vital energies of the tree, converted into soluble sugar, gum, &c., the sap or water is evaporated, and no fermentation effected: but if the tree is felled when its pores are filled with a solution of sugar, dextrine, and gum, as soon as the vital action is suspended, a play of chemical affinities commences, and a rapid decomposition, not only of the substances held in solution, but partially of the woody fibres of the alburnum, is effected, and a consequent weakening of its cohesive property. But after all, is the evil so great as is imagined? Undoubtedly it is in a sapling of suitable size for a lever. But the question I propose for solution is, whether the heartwood is at all affected by the condition of the sap? whether there is any circulation of sap going on in its pores? whether vitality in it is not extinct, and it serves only as a support to the wonderfully organized structure and vital operations by which it is enveloped, waiting the summons of the woodman's axe to appropriate it to his use at any season that may best suit his convenience.

On page 49 of the same volume of the Farmer, I notice a communication from a person who, it seems to me, is not quite so competent to answer the enquries of those who ask for information on the best mode of destroying, or restricting to prescribed limits, that pest of our farms, the Snapdragon, (*Linaria Antirrhinum*) as though he had been better acquainted with its habits, for, from his observations, we would infer that he has once passed through a district infested with it, and has cultivated it in a flower border, but not long enough to know that it is a perrennial instead of an annual. We, who have been fighting it some twenty years, with the vain hope of its final extermination, do not feel disposed to set our brother farmers to digging with a hoe, but I would recommend the use of salt, where it appears in isolated patches: and would all the farmers in a neighborhood not much infested with it, unite in a war of extermination, it might be kept from spreading, except by its gradual encroachment from districts already overrun; but our farmers are not all careful, and if it is suffered to take quiet possession of one farm, the owners of those adjoining may nearly as well give up, for the light seeds are driven by the winds on the crusted snow from field to field, and every root broken by the plow is sure to produce a progeny of tiny plants, in which case the farmers only alternative is, to manure well and smother it with a luxurious growth of grass or grain. In hoed crops it is not to be dreaded, neither does it flourish in good meadows, or fields well cultivated with grain, but in poor pastures it seems to find a congenial home, and grass and weeds of every class yield it undisputed possession; but even then, a good coat of manure, and plowing and seeding with a liberal hand will prove effectual. This may seem like giving up to an enemy too easily, but from long observation and experience, I am persuaded that it would be time and labor thrown away to try to destroy snapdragon by digging, after it had spread to any considerable extent.

I will not at this time comment upon any other subject, but as the season for gardening is approaching, I will communicate a little item of information, that may be of service to some who are fond of Lima Beans, but find it difficult to grow them. I have found the most difficulty in their coming up, and the reason is obvious enough too, when once thought of; they are so large and flat, that when thrown down in the usual way they fall on the side, and when swollen by the moisture, their circumference is so much increased that the stem has not sufficient strength to raise or displace the superincumbent earth, consequently it curls around in the soil and finally dies. My Limas, planted in the usual way, never half came up, but stick them in carefully with the heart, or point whence the root issues, downwards, and all that are good will come up.

And lastly, although it is not the season for gathering pears, yet while I am writing and think of it, I would like to be informed of the best mode of saving winter pears, as I completely failed last winter by wrapping some separately in paper, and keeping them in a dry room. My pears were the *St. Germain*. The trees were procured from A. J. Downing, but are identical, both tree and fruit, with the *Côlmar d' Hiver*, from New Bedford, Mass. Are the two varieties nearly alike? My pears withered and were utterly worthless. S. H.—*Plattskill, N. Y.*

NATURAL AND CULTIVATED GRASSES.

A Young Farmer, of Wolcot, N. Y., in the December number of the Farmer, asks your advice about manuring—whether to plow it in deep or lay it on the surface. He then goes on to speak of wild June grass as of something inferior to artificial grasses. This I think entirely a mistake. I am sure I am much within the limits that truth would permit me to take, when I say that 75 per cent of all the English butter that supplies the London market, is made from natural grass in the summer and from hay of the same material in winter. Now, I apprehend that about Christmas the Londoners would be very much puzzled to say on which side their bread was buttered, if English hay, made of natural grass, was as worthless for butter making purposes, as timothy hay is known to be. It must be borne in mind, too, that

slopping and feeding grain to milking cows, is a practice unknown to butter makers there, and that there is nearly as much butter made in the winter as in the summer. I will just add, in corroboration of the opinion of the writer's father, that many English agriculturists believe that grass land, if generally pastured, will go on to improve for half a century.

While you are at the World's Fair, go down to the vale of Aylesbury. There you may see several thousand acres of the richest grass land in the world, that has been undisturbed by the plow since the days of the Tudors, and much of it does not show the slightest trace of ever having been cultivated; and, though called a vale, the land is as rolling as much of Western New York. I am clearly of the opinion that there is a great many acres of land in this country, that would, if it had been cleared off without plowing and left for permanent pasturage, at this day have been much more valuable than it now is or can be for many years to come. J. G.—*Wayne, Steub. Co., N. Y.*

We certainly think our correspondent mistaken when he says that "seventy-five per cent. of all the English butter that supplies the London market is made from natural grass." This may be true of butter from certain sections. Rye-grass, orchard-grass, or cocksfoot, and other varieties of grass are cultivated extensively, as well as clover. Vetches, or tares, lucern, sanfoin, &c., are raised in almost all parts of the country for soiling. Hay, in England, is cured with much care and labor, and placed in very neat stacks, from which it is cut, by a knife, in square "trusses," weighing about fifty-six pounds. We never noticed that English hay was superior in any way to American. We rather think the butter is more indebted to the care of the dairy maid for its good quality, than to any virtues in the hay or grass. Although good butter is always to be found in England, by paying the highest price, yet the traveller will have no difficulty in finding that which is inferior at a cheaper rate.

The propriety of laying down lands to *permanent pastures* has been much discussed in England, and this course is more generally adopted, but in Scotland very little land which is capable of being brought under the plow is kept in permanent grass. But, in England these *permanent meadows* are not left unmanured and uncared for, as our correspondent would lead us to suppose. We have seen farmers in England manuring their meadows with liquid manure from a cart such as is used in watering the streets of our cities. In other cases meadows in England receive a thorough top-dressing of well-rotted manure. The scarifier, or harrow, is then used, scratching the surface, and permitting the manure to penetrate to the roots. After the scarifier, we have seen large bunches of thorns and brambles drawn across the field, to aid in incorporating the manure with the soil. No wonder that land in grass, thus treated, constantly improves. Statements of the practice of English agriculturists, unless very explicit, are apt to mislead.

DISEASES OF CATTLE.

HORN DISTEMPER.—Farmers are generally aware of the fact that cattle once attacked with the horn distemper are subject to similar attacks every succeeding winter or spring. I have found by experience, that a dose of soot and salt given occasionally, with a little spirits of turpentine between the horns, will prevent an attack.

BLACK LEG.—Many calves are lost every year by this disease. It is generally believed to be caused by change of feed in the spring. I have kept a large number of calves for several winters past, and have never had one affected by this disease. I raise a large quantity of roots, (principally sugar beet) and feed them during the winter to my young stock. The change in the spring is not so great as though they had been kept on dry feed during the winter, and I think calves fed partly on roots during the winter will not be troubled with black leg.

Many of our cows have been attacked with a disease soon after calving. For a short time they appear well, but soon are taken with an inflammatory disease, (I suppose,) and most thus attacked die, unless helped speedily. The best remedy we have found, is a table-spoonful of saltpetre, dissolved in a pint of whiskey. This remedy is quite successful. R. D.

POTATO CULTURE.

EDS. GENESEE FARMER:—Many years since I discovered that new potatoes invariably set above the tuber or seed planted, and in accordance with my knowledge of this fact, I commenced planting the potatoes as deep in the ground as I ever designed they should be at any time during the season of cultivation. The practice has thus far fully answered my expectations. I have for the past ten years invariably raised very good crops of fair sized potatoes, while many of my neighbors, tilling the same kind of soil, who have pursued the old method of hilling and tillage, have had lighter yields and smaller and inferior potatoes. I have found that the seasons of severe drouth have not as seriously affected my crops as those of others. I prepare the land for potatoes the same as for corn. I plant in hills three feet apart, and usually with a spade dig as deep as the ground has been plowed, and, if a sod, I cut through it. The tops are longer in coming out of the ground, but as soon as out, I pass through the rows with a cultivator, and with a hoe clean the hills. When hoed, I put the same composition in the hills that I use for corn, which greatly benefits the crop. I endeavor to keep the ground clean during the season. I have usually planted about the first of May, and dug and housed as soon as they were sufficiently ripe, and therefore have lost but few by the rot. I doubt not that if farmers would, where their soil admits, practice the level mode of culture, both with corn and potatoes, that they would generally be much better repaid for their labor. But enough upon this subject.

Now a word about Sowing Plaster. The use of it is rapidly increasing in the country, and consequently the best method of sowing should be adopted. It may not be known by all of the readers of the Farmer who use it, that sowing from a wagon is the quickest, easiest, cheapest and best method, where sown by hand. Place the barrel, or barrels, in a wagon, taking out a head. A man will sow it about as fast as horses usually walk, if he has a person to drive. By this means a ton can be very accurately sown in a few hours without much fatigue or suffering from the dust. ORANGE H. WAIT.—*Willoughby, Ohio.*

FOOT-ROT IN SHEEP.

MESSRS. EDITORS:—The following is an infallible cure for Foot-Rot in Sheep, if faithfully applied, and the sheep put into pasture that is not infested with the disease. Make 1 gall. of strong tobacco water by boiling 1 lb. of good tobacco, skim out the tobacco leaves, and while hot, add 1 lb. of blue vitriol, ½ lb. of copperas, and ¼ lb. alum—if partly pulverized it will dissolve the better. After it is cold, add half a pint of spirits of turpentine.

To work to advantage, it needs two men. One catches the sheep, sets it on its rump between his feet, with the back of the head up against his breast. Seating himself on a low bench, with a sharp knife he clears the hoofs of the fore feet, paring off all the loose hoof, and applies the medicine with a small brush that will work between the claws, as it must be applied thoroughly between them, and on the outside to the top of the hoof. The other is seated so as to conveniently attend to the hind feet. Thus two men will doctor from fifty to one hundred sheep in a day, which must be done three times a week. It is no doubt highly contagious after it is once seated. If one is lame, the whole flock must be doctored. It is allowed by many experienced shepherds that the disease is often produced by neglecting to clean and trim the feet in the spring when warm weather first commences, in March or April, the shell of the hoof growing down below the sole of the foot and turning under, where dirt accumulates, and also between the claws, creating a fever and generating the loathsome disease, which, when it once gets into a flock, is hard to remove, being so contagious, and yet in a single sheep it is easily cured. See "American Shepherd," by L. A. M., page 380. A SHEPHERD OF STEUBEN. —*Reading, N. Y.*

"CALF FEVER."

SOME time since I noticed an article in the Farmer, from a correspondent, asking for information upon what he called the "calf fever." I was in hopes that some one competent to the task, would take the matter up and give us some light upon the subject. But as that is not the case, I will offer my opinion. The "calf fever," I think, is the same complaint that in England is emphatically called the "fall," from the fact, I presume, that in ninety-nine cases out of

every hundred, an animal so falling never rises again; our only hope, therefore, is in warding off the attack, for cure is almost impossible. It is entirely independent, I believe, of any previous course of feeding, except, however, that those cows that are in the highest condition will be most liable to attack, but is brought on by exposing the cow to the burning rays of the sun immediately after having calved. I am the more confirmed in this opinion from the fact that although I have known many cases, have never known one to occur in cold or cloudy weather, and it is more common in the early part of the season than later in the summer, when the animal frame has become more inured to the heat. If the weather is hot let your cows be kept in the shade (if they are shut up, the place should be well ventilated,) for at least two or three days after calving. I imagined I relieved a cow that showed strong symptoms of this complaint, by sprinkling her copiously with cold water from the head to the tail. If your correspondent is in possession of any facts that conflict with this view of the case, I hope he will publish them.
J. G.—*Wayne, Steub. Co., N. Y.*

RAISING CATTLE.

In the spring of 1848 I planted fifty rods of ground to carrots, from which I obtained 230 bushels. The September following I purchased ten calves, for which I paid 5c. per lb. per head. The ensuing winter I fed them three pecks once a day, one small ear of corn, and what hay and corn fodder they could make way with; I gave them good pasture through the summer. The next winter I fed them with two quarts of corn-cob meal per day, together with other fodder. They had good pasture through the past summer. On the 11th December last, I weighed them and they averaged 1224 lbs. each, the largest weighing 1320 lbs.

Upon close calculation, I think a man had better raise cattle in this way than the common way—of not feeding any grain—for the average weight of steers that are one year older, would not be more than 1100 lbs., take the country through, and we have a fine stock-growing country in old Jefferson. E. Gore.—*Belloille, N. Y.*

Remedy for Botts.—Those who have horses troubled with Botts, will find the following a very good remedy:—Take half a pint of molasses and one pint of new milk, which put in a bottle and shake well together—drench with this. Then dissolve a quarter pound of allum in warm water, and in fifteen minutes give this. Physic should be given after this. P. C.

Inquiries and Answers.

Messrs. Editors:—In the October number of the Farmer, for 1850, you published a communication signed Joseph Harris, in which the writer endeavored to show that plowing in clover is an actual damage to the wheat crop, and I was not a little surprised when "S. W." endorsed the theory in the succeeding number. Now, if I have understood the editor of the Farmer, he has heretofore recommended the plowing in of green clover, and taught the same, as the very best mode of general practice. Indeed, in the same number you gave an account of an uncommon yield of wheat, (sixty bushels to the acre,) said to be raised on poor land manured with lime and ashes and a fine growth of *clover* turned under, so I think the editor has not given up his old theory, but the wonder is how such a statement as the one referred to, came to be inserted without note or comment. It seems to me to be a mistake which will *tell* against the acknowledged merits of the Genesee Farmer. Farmers who have successfully pursued the course of plowing in clover and summer fallowing for wheat, (both of which you lately seem to discourage) will not be easily induced to change it for an opposite course. I have universally observed that where this course has been followed, it has been more successful than any other. Without disrespect to Mr. Harris, who says he is an English farmer, recently arrived in this country, I would advise that he test the matter a little more fully before prejudging and condemning the almost universal experience of others, whose chances to know are probably as good as his. Who does not know that the wheat crop of Western New York would be very much reduced—probably one-half—if the valuable aid of plowing in clover was dispensed with, yet foreigners settling in this country generally affect a superior knowledge of everything American that is not precisely like the same thing in the old country. In regard to this, only two things surprises me; one is that they should leave so good a country as the one they emigrated from; the other is, that they should settle in a worse one, or in one where they are so ignorant as they are in the United States of America. They scarcely wait till they strike our shores ere they endeavor to teach their exploded dogmas.

I should like to hear some of S. W.'s reasons for believing "the system still persisted in (plowing in clover) is attended with the steadily increased dimunition of crops." Such is the very reverse of my own experience, and if any plausible reasons can be given for such speculations, I should like to see them put forth in the Farmer, or some other agricultural print.

I noticed in your paper of January last, a communication concerning horse-rakes, and would ask you if the rakes then recommended are the best in use. If so, they are far from being perfect. The wire-tooth rake is too weak for heavy grass, and good only for gleaning, while the wooden turn-over rake is absolutely too provoking for a christian to use, if he would avoid profane language. They are hard to hold and awkward to turn over; they also tangle up the hay, so that you must lift the whole rake full, with a fork, at once, or spend some time in pulling it apart. If you have any other kinds, please give us engravings of them, and their prices now as well as any time, so that we can know what we want and where to get it. Give engravings of all kinds. Also, if it would not be out of place, give us an engraving of Mr. Streeter's barn you praised so highly in your August number, with a description of the same. Anti-Humbug.

The writer of the above shows more feeling than the topics discussed call for; but we will let that matter pass. It is our practice to permit farmers to express their views on all questions like the plowing in of clover, or feeding it to domestic animals and turning under the manure made from it, instead of the plants, with the utmost freedom in the pages of this journal. There are soils so rich in vegetable mould, that the dung and urine derived from a ton of any forage plants, are better for a crop of wheat than the plants without passing through the bodies of animals. We have so often explained the philosophy of this, that we supposed every reader of the Farmer understood our views upon the subject. No one proposes to grow clover or grass and wholly remove the crop with the expectation of *improving* the land thereby. The only debateable point is that of feeding grass or hay and turning under the manure, or turning under the plants without feeding. In a majority of cases, the soil is so poor that the latter is the better treatment for the land. In our "Study of Soils"—a work now in press—this interesting topic is discussed at length.

Eds. Gen. Farmer.—Although a stranger to you personally, yet as those whose attention is directed, in no small degree, to agricultural pursuits, perhaps "mutual favors will beget mutual benefits." Laving at some distance from market, I have been convinced for a long time that a small capital can be better invested than in raising wheat and corn. Accordingly, among others, I have had my attention directed to the cultivation of Mustard and Flax seed. So far as I am able to inform myself, I have become satisfied that a mustard crop, where it hits, is profitable, and perhaps more so than any that can be raised. But how to make it hit is the difficulty. On turning to the Prairie Farmer for information on this subject, the editor very clearly intimates two things:—first, that if you succeed in raising a crop you will not find a market for it; secondly, that the crop (based upon past experience) will prove a failure. On recurring to other works, and particularly to the Patent Office Report of 1848, I find the same discouragements held out. After giving the cases of those who had tried to raise this crop, without success, it concludes by saying that, with one exception, no person could be found who had attempted to raise a second crop, and that the person who made a second attempt, wound up his experiment by assigning over his property for the benefit of his creditors. Now after all this, we do know of one individual who has been uniformly successful in raising this crop; but as to the secret of his success, if there be any, the public are inaccessible. Will you, then, do the writer of this the favor to answer the following interrogatories:

What kind of seed should be used, and how much to the acre?

When should the seed be put into the ground, and how many bushels may be considered an ordinary yield?

And, generally, how should the crop be cultivated; or, in other words, what are the causes why so many fail in their attempt to raise it?

In relation to the raising of Flax, our enquiries will be entirely confined to the cultivation of it simply for the seed. It is said there are three Rinds of seed, and that one kind will yield much more seed than either the others. If this be the case, will you describe this seed so that it may be known. Again, at what time in the year should it be sown, and how much seed should be sown to the acre? On this latter point there seems to be a variety of opinion. The Patent Office Report referred to above varies the quantity from half to one and a quarter bushels to the acre. The Complete Farmer says that six pecks is the least, and two bushels the most that should be sown. The Prairie Farmer lays it down at one bushel to the acre. The Valley Farmer, in an article on this subject, affirms that from fifteen to twenty quarts is enough; while a writer in the St. Louis Intelligencer of a late date, says that six to eight quarts is amply sufficient. From these various statements, you will see that in sowing say thirty acres, the matter of seed alone becomes a question of some importance, especially when good seed is worth from $1,65 to $1,75 per bushel, and it becomes doubly so when from the sowing of six quarts to the acre, according to the writer in the Intelligencer, a person may expect as an ordinary crop, eighteen bushels to the acre, and from that to twenty-four. This writer signs himself an "Eastern Man," and professes to give his experience as such, with that of others within his knowledge.

Now, Messrs. Editors, living, as we do, some distance from any market, having at least one hundred miles of land carriage, you will see that the more capital we can get into the bushel, other things being equal, the better. Any information in answer to this, will be fully appreciated by one subscriber at least. H. D. J.—*Eddyville, Ia., March*, 1851.

One must have choice land and a favorable season, to realize from eighteen to twenty-four bushels of flax seed per acre from a field of thirty acres. Practical men differ in opinion as much about flax culture, as on any other subject. To obtain a large crop of seed, the soil should be finely cultivated and rich, and care should be taken not to sow too much seed per acre. We have many readers of experience in the production of this crop, and we should like to learn from some of them the quantity of seed which they use.

The demand for mustard is too limited for the general culture of this plant, if it paid well as a field crop.

MESSRS. EDITORS:—Will you have the goodness to inform me whether old chip manure is well adapted to a garden of stony, gravelly soil. I do not sufficiently understand the chemical analysis of the manure—the soil to which it is to be applied—the vegetables to be grown in the soil—to decide. But I am seeking for the requisite knowledge on these points, through your very careful journal, and other sources, hoping I may soon be able to determine such questions for myself. But for this time if you would give some general views in relation to this point, you would do me a favor and perhaps your readers generally. INQUIRER.

"Chip manure" is better adapted to a heavy, clay soil than to one which is light, or "stony and gravelly." By mixing leached ashes with decaying chips, their fertilizing power, for any soil, will be greatly improved. They are also admirably adapted to the wants of trees, as a mulching, covering the entire area of the roots of the tree. Chip manure is light and porous, and may be advantageously mixed with the solid and liquid droppings of animals.

EDS. GEN. FARMER:—Please publish information relative to the different kinds of mills for cleaning clover seed—hand-mill, horse-power, and water- power—and the cost of each. WM. S. FLACK.—*Essex, N. Y., Feb.*, 1851.

There have been several improvements in machines for cleaning clover seed, since the Editor of this journal was familiar with the operation. Perhaps some one now engaged in the business of growing clover seed will give the desired information. We believe E. J. BURRALL, of Geneva, manufactures a good mill.

MESSRS. EDITORS:—If it will not tax your time too much, I should be glad to have an answer from you to one or two questions which I am unable to answer for myself, and that you may answer understandingly, I will transcribe an analysis of our soil and subsoil, made for us by Dr. SALISBURY. It is as follows. 100 parts of dry soil give of

	Surface soil.	Sub-soil.
Humine and Humic acid,	0.746	
Apocrenic acid,	0.146	
Crenic acid,	0.056	3.300
Undecomposed or insoluble vegetable matter,	5.302	
Silica,	82.691	84.310
Alumnia and Iron,	7.342	8.560
Lime,	0.569	0.590
Phosphoric acid,	0.053	0.056
Magnesia,	0.437	0.920
Potash,	0.853	0.940
Soda,	0.343	0.580
Chlorine,	0.160	0.170
Sulphuric acid,	0.261	0.280
	99.970	99.766

Now, what I wish to know is this: would the following rotation, accompanied by the soiling system, be a beneficial one or not?—that is, would the soil probably grow better or worse under it? The rotation is as follows:

1st year. Manure on green crops, as turnips, potatoes, and corn, drilled for fodder, &c.

2d year. Spring grain, seeded with clover.

3d year. Clover cut for hay and feeding, then turned over in the fall and sowed with wheat.

4th year. Wheat, seeded with clover.

5th year. Clover, cut and turned under in the fall, and sowed with wheat.

6th year. Wheat.

7th year. Manure again, say twenty loads to the acre.

An answer to the above, through your valuable paper, or otherwise, as most convenient, will much oblige A READER.—*Lockport, N. Y., March*, 1851.

Our correspondent has a soil which is better than an average in Western New York, although it contains only a half per cent of lime, or thereabouts. If we understand him, he proposes to seed with wheat four falls in succession, viz. 3d, 4th, 5th and 6th, in his system of rotation. This is too much of one white crop, unless he applies ashes, salt, lime, and stable manure to keep up and augment the fruitfulness of his arated land. There are few soils which can bear over one crop of wheat (a good one) in three years, and as a general rule, one in four years will be better in the long run. Green crops made into manure, and that restored to the fields whence the crops were taken, should be more practiced, if farmers wish to improve their estates. This, with under-draining and deep-tillage, will change the whole face of our country for the better. Rear choice neat stock on grass and other forage plants, and the business will be profitable.

MESSRS. EDITORS:—I have purchased a lot of hair from the tanners, for the purpose of applying it to my land. If convenient, I would be pleased to be advised how and when the hair ought to be applied to the soil for the benefit of the summer crop. I propose applying at the rate of twenty bushels per acre. ELIDA JOHN.—*Pleasant Dale, Pa., March*, 1851.

Cover the hair with a plow, to decompose in the soil just below the roots of your crops; and be careful to spread it evenly in the rows, or broadcast, as you may think best to apply it. Hair is a powerful fertilizer when it rots.

EDS. GEN. FARMER:—Will you do me the favor to inform me, at your earliest convenience, whether Distillery Manure is good for raising vegetables and grain. Any information you may be pleased to give me will be thankfully received. I do not recollect seeing anything in your paper respecting it.—JOHN G. KILBY.—*Waterford, N. Y., Feb.*, 1851.

Distillery manure being formed of the seeds of grain, either corn, rye, or barley, is valuable for all vegetables. It is usually diluted with a good deal of water, but this does not change the nature of any of its fertilizing elements.

MESSRS. EDITORS:—There is one point in agricultural books and periodicals, which, to my mind, has never been treated satisfactorily; I mean the theory and usefulness of turning in crops for manure. If, as is said even by Prof. JOHNSTON himself, in some of his writings, the philosophy of the operation consists in the absorption of organic and inorganic elements from the subsoil by the roots to be plowed in, and so enriching the surface, there would be at all events in the long run, no addition of fertility, unless all plants intended for green-manuring had roots able to penetrate deeper than those of the cereals, and other plants to follow, which does not appear to me to be the case. The whole advantage, then, might consist in the mellowing of the soil, which a naked fallow might do as well.

If the absorption of gases from the atmosphere, by the leaves of the plants, constitutes the enriching addition, then let it be more confidently stated, and let some discrimination be made, leaving in view that position between the plants intended for that use. Either of the above suppositions being established, is the result found in practice to warrant the outlay, considering the price of labor and of produce in America?

Some words of comment on the above, will oblige

A SUBSCRIBER.

Our correspondent alludes to points of the highest practical importance. We rejoice to see so many readers of this journal waking up and pushing their investigations beyond the mere surface of things and theories. The ascent and descent of the soluble elements of crops, both organic and mineral, through the soil and around the roots of plants, is an interesting study. Not less curious and instructive is the increase and decrease of vegetable mould in cultivated land. We have two hundred closely written pages of manuscript on the "Study of Soils," and more than eight hundred on "Agricultural Geology," embodying all that the books have to show, in the way of *facts*, on these subjects. But we are all small school-children in this matter, and after three winters of hard labor at Albany, and two winters and one summer at Washington, the writer is constrained to say that, unless the farmers instruct their public servants to lend a little aid to Agricultural Science, it can never *begin* to make progress in this country.

ANALYSIS OF MARL, AND ITS VALUE AS A MANURE.

ANALYTICAL LABORATORY, YALE COLLEGE,
New Haven, Conn., April, 1851.

EDS. GENESEE FARMER:—During a visit to your part of the State of New York, in the months of September and October last, I was greatly impressed by the remarkable amount of mineral and vegetable wealth that lies locked up in your swamps and hollows, in the form of Muck and Marl. These invaluable deposits were so frequent, so abundant in the quantity of their fertilizing materials, and withal, so little valued, as to awaken my astonishment. I am aware that this lack of appreciation of these riches, is not for want of means of information, for your valuable paper has frequently endeavored to arouse the farmers upon this very subject. I have thought, however, that a few words from a stranger might possibly produce some effect; and that the analysis of one of your own marls, which has been made in my laboratory during the past winter, might possess a degree of interest to the practical farmer, beyond that of any mere abstract argument.

The marl alluded to, was from a drained swamp that I visited in the town of Clyde, Wayne county. The field belonged to Mr. Jos. WATSON, then President of the County Agricultural Society, an active, intelligent and enterprising farmer, one who is laboring, both by example and by precept, to elevate the character of Agriculture in Wayne county.

The analysis of this marl was carefully performed by one my students, Mr. JON. B. BUNCE, of Hartford, Ct., and his results are given in the following table:

Composition of 100 lbs. of Marl.

	Clyde.	Peterboro, N. Y.
Sand,	.090	9.57
Lime,	50.565	45.02
Carbonic Acid,	38.519	35.00
Magnesia,	.072	0.66
Iron and Alumnia, with some Phosphoric Acid,	.061	2.69
Common Salt,	trace	—
Sulphuric Acid,	trace	—
Organic Matter,	10.693	7.06
	100.000	100.00

This marl, according to the above statement, is one of an uncommonly fine character. Adding together the lime and carbonic acid, we find that in 100 lbs. of the dry marl, there is 89.084 lbs. of carbonate of lime, or nearly nine-tenths of the whole. Indeed, if we leave out the organic matter, this marl is almost an absolutely pure carbonate of lime. The small quantity of carbonate of magnesia adds somewhat to its value, and the phosphoric acid, although in an extremely minute proportion, is of much importance. If there is but one pound in a thousand, it will amount to something worth mentioning when we add a number of tons of the marl per acre. The mere traces of sulphuric acid, and of salt, are also, in this vein, of considerable importance.

By way of comparison, I add the analysis of a marl from Peterboro, N. Y., also made in my laboratory. This is a marl of good quality, but does not equal the first sample, which is one of the purest that I have ever seen.

Any person who has studied even the rudiments of Scientific Agriculture, must say at once, on looking at these analyses, that the substances named are such as enter into the composition of plants, and are, in fact, indispensable to their growth. The experience of all European, and many American practical farmers, confirms, by actual results, this theoretical view. Why then is it that your farmers, as a class, do not make any use of that species of manure which has thus been deposited for their benefit at their very doors? It is not because their land is fertile enough already, for a journey through even your most thriving districts, will prove amply that this is not the case. There are hundreds of fields in your richest counties, gardens as these naturally are in soil and climate, that look unmistakably poverty stricken, that cry out, as plainly as man could do, for food.

If the present generation of farmers do not make use of the treasures which nature has so abundantly provided, the next will be obliged to do so, for they will find the land exhausted, and will be forced to study the best means of bringing it up again. But if the farmer can be induced to take the right course now, to employ every variety of fertilizers wherever the produce of the soil begins to fail, they will never have to go through with the long experience and toilsome process of restoration. Once run down, it is hard to bring land up; but a fertile soil may be kept so, and even be made to improve, with a comparatively small amount of labor.

You have farms and farmers in your section of the state that are alike creditable to American agriculture; such need little urging. But there are others who have scarcely made any advance; and others still, who are even retrograding. To each of these latter classes, I should say that a dose of marl and muck would be of essential service.

JOHN P. NORTON.

NEW YORK STATE AGRICULTURAL SOCIETY.

LIST OF PREMIUMS FOR THE ANNUAL SHOW, TO BE HELD AT ROCHESTER, SEPT., 16, 17, 18, & 19, 1851.

(*Continued from page* 85.)

POULTRY.

Best lot of Dorkings not less than 3, 1 cock and 2 hens. $3. Best lot of Polands, do do. 3. Best lot of Malay or Chittagong fowls. 3 Best lot of Bantams, do do. 3. Best lot of Game, do do. 3. Best lot of Turkeys, not less than three, 3. Best lot of Muscovy Ducks, do. 3. Best lot of Small Ducks, do. 3. Best lot of Guinea Hens, not less than six. 3. Best pair of Large Geese, 3. Best pair of Wild Geese. 3. Best lot of poultry owned by exhibitor, (statement to be furnished and verified,) 10. Best exhibition of Pigeons, 3. Best lot of wild Turkeys, 3.

PLOWS.

Best plow with newly invented principles or arrangements, not heretofore known, which on trial proves beneficial to the farmer, $15

PLOWING MATCH.

First premium, $10; 2d do. 8; 3d do, 5; 4th do, Trans. *Boys under* 18 *years of age*—First premium, 10; 2d do, 5; 3d do, Trans.

The competition for plowing open to competitors out of the State. The name of plowman must be given as well as the kind of plow used, at the time of entry.

Rules to be observed—depth of furrow 7 inches, width 10 inches, lap furrow.

FARM IMPLEMENTS NO. I.

Best farm wagon, $5. Best harrow, 3 Best corn cultivator, 3. Best fanning mill, 5. Best corn stalk cutter, 5. Best straw cutter, 3. Best corn and cob crusher by horse power, 5. Best clover machine, 5 Best flax and hemp dresser, 5. Best horse cart for farm 3. Best ox cart, 3. Best horse rake, 2. Best ox yoke, 2 Best roller for general use, 5. Best clod crusher and roller combined, 5.

FARM IMPLEMENTS NO. II.

Best plow harness, $2 Best wagon harness for farm, 2. Best carriage harness, 3. Best saddle and harness for general purposes, 2. Best dozen axes, 2. Best churn, 2. Best cheese press, 2 Best six milk pans, 2. Best potato washer, 2. Best grain cradle, 2. Best six hand rakes, 2. Best six hay forks, 2. Best six grass scythes, 2. Best six cradle scythes, 2. Best six manure forks, 2. Best hay rigging, 2. Best lot of grain measures, 2. Best dozen wire brooms, 3; 2d do, 2. Best dozen Shaker, or twine-tied brooms, 3; 2d do, 2. Sample of each kind of brooms to which premiums are awarded, to be deposited in Museum.

FARM IMPLEMENTS NO. III.

Best horse power for general purposes on the sweep or lever principle, $5 and Dip. Best horse power on railroad or endless chain principle, 5 and Dip. Best iron horse power, 5 and Dip. Best thresher, to be used with horse or steam power, 5 and Dip. Best seed planter, for hand or horse power, for hills or drills, 3 and Dip. Best wheat drill, not less than six drills, Dip. Best grain drill, with apparatus for depositing manure, Dip. Best cultivator and drill combined, Dip. Best broad cast sower, Dip. Best wheat cultivator, Dip. Best portable sawmill, for wood, fences, and for farm use, Dip. Best corn sheller, horse power, Dip. Best corn sheller, hand power, Dip. Best vegetable cutter, Dip. Best and most numerous collection of agricultural implements, $20 and Dip. Best and most numerous collection of agricultural implements, manufactured in the State of New York, by or under the supervision of the exhibitor, materials, workmanship, utility, durability, and prices, to be considered in both cases, $20 and Dip.

In these last cases, a catalogue of the implements, and the price of each, must be given, and certificate as to the manufacture.

P. S.—Persons presenting agricultural implements or articles of mechanical ingenuity and utility, are requested to furnish the Secretary with a particular description of the article, the price, and place where it can be had—as it is intended to publish a descriptive list of the articles exhibited at the Show, for the benefit of manufacturers and purchasers.

MACHINERY AND IMPLEMENTS NO. IV.

For the most valuable machine or implement for the farmer, either newly invented or an improvement on any one in use, Silver Medal.

STEAM ENGINE FOR FARM PURPOSES.—Best steam engine for agricultural purposes on the farm—being moveable—which, from its utility in saving labor and expense, simplicity and cheapness of construction, or other circumstances, shall be deemed worthy of public notice. The report must be accompanied by drawings and descriptions of the machine and by a model—the model or machine to be deposited in Society's Museum, Sil. Med. and $25; 2d do. $20.

Silver Medals will also be awarded for articles of mechanical ingenuity, and machinery deemed useful.

BUTTER.

Best lot (quality as well as quantity considered) made from five cows in 30 consecutive days, 25 lbs of the butter to be exhibited. $25; 2d do, 15; 3d do. 10.

Compliance with the following rules will be strictly required of those who compete for these premiums, viz:—The cows to be fed on pasture, green corn stalk fodder, or grass cut for the purpose only. No grain, roots, or slops of any description, to be fed during the trial. The cows to be owned by the competitors previous to the first day of February, 1851. The milk to be drawn from the cows on some day during the trial to be accurately weighed and measured, and the result stated. A sample of at least 25 pounds of the butter so made to be exhibited at the Show for the inspection of the examining committee. The particular breed of cows to be stated, if known, and the method of making and preserving the butter. A certificate signed by the owners of the cows, and at least one other person who assisted in milking and making the butter, detailing the above particulars, will be required.

Let the above regulations be observed, and an opinion approximating to accuracy may be formed by the public, which of the several breeds of cows are the best for dairy purposes; and from those that prove the best, further improvements may be made.

Best 25 lbs. of butter made in June, $10; 2d do. 5; 3d do. Trans. Best 50 lbs. made any time, 15; 2d do. 10; 3d do. 5; 4th do. Trans. Best half dozen butter firkins, 2. Best half dozen butter tubs, 2.

The claimants for premiums must state in writing when the butter was made; the number of cows kept on the farm; the mode of keeping; the treatment of the cream and milk before churning, winter and summer; the method of freeing the butter from the milk; the quantity and kind of salt used; whether saltpetre or any other substance has been employed; also whether in the use of any variety of salt injurious results have occurred; if so, state variety and where manufactured.

The butter offered for premiums must be presented in butter tubs, jars, or firkins.

Girls under 21 *years of age*—Best lot of butter, not less than 10 lbs., made at any time, Silver Milk Cup; 2d do. Pair Butter Knives 3d do. Set Tea Spoons.

A statement of the manner of making the butter must accompany each sample.

CHEESE.

One year old and over—Best 100 lbs, $20; 2d do. 10; 3d do, 5; 4th do, Trans. *Less than one year old*—Best 100 lbs., 15; 2d do, 10; 3d do. 5; 4th do. Trans. Best half dozen cheese boxes, 1. Best six dairies (not less than three cheeses from each) from any county, 30. Best three dairies, (not less than three cheeses from each,) from any town, 15.

Those who present cheese for the premiums offered, must state in writing the time it was made; the number of cows kept; whether the cheese was made from one, two or more milkings; whether any addition is made of cream; the quantity of rennet used, and the mode of preparing it; the mode of pressure; and the treatment of cheese afterwards, and the kind of salt used.

SUGAR.

Best 25 lbs. maple sugar, $10; 2d do, 5; 3d do, 3; 4th do. Trans.

The process of manufacturing and clarifying must accompany the samples offered.

HONEY.

Best 20 lbs, $5; 2d do, 3; 3d do. 2.

GRAIN AND SEEDS.

Best sample winter wheat, not less than one bbl. $5; 2d do, 3. Best sample of spring wheat, 1 bbl, 5; 2d do, 3. Best sample of rye, 1 bbl, 5; 2d do. 3. Best sample of oats, 1 bbl. 5; 2d do. 3. Best sample of barley, 1 bbl, 5; 2d do. 3. Best sample of Indian corn, 1 bbl. 5; 2d do 3. Best sample of buckwheat, 1 bushel, 3; 2d do, 2. Best sample of flax seed, 1 bushel, 3; 2d do, 2. Best sample of hops, not less than 25 lbs, 5; 2d do, 3. Best sample of timothy seed, 1 bushel, 3; 2d do. 2. Best sample of newly introduced grain, valuable to the farmer, not less than 1 bbl. 3.

Samples of grain and seed in all cases to be deposited in the Museum of the Society.

Sample of crops cultivated and raised on any *one* farm, tastefully arranged and exhibited on a wagon or cart, $10; 2d do, 5; 3d do, Small Silver Medal.

The exhibitors to present a certificate to the committee, that all were raised on the exhibitor's own farm.

VEGETABLES.

12 best stalks of celery, $3. 6 best heads of cauliflower, 3 6 best heads of brocoli, 3. 12 best white table turnips, 3. 12 best carrots, 3. 12 best beets, 3. 12 best parsnips, 3. 12 best onions, 3. 6 best heads of cabbage, 3. 12 best tomatoes, 3 2 best purple egg plants, 3. Best half peck Lima beans, 3. Best half peck Windsor beans, 3. Best bunch double parsley, 3. Three best squashes, 3. Largest pumpkin, 3. Twelve best ears of seed corn, 3. Best half peck of table potatoes, 3; 2d do. 2. Best and greatest variety of vegetables raised by exhibitor, 5; 2d do, 3. 12 best sweet potatoes, 3. Best new and valuable variety of vegetable, with evidence of its superiority, 3.

Discretionary premiums will be awarded on choice garden products not above enumerated.

FLOUR, INDIAN MEAL, STARCH, AND FARINA.

Best barrel flour, S. Sil. Med.; 2d do, Trans. Best barrel Indian meal prepared for warm climates, S. Sil. Med.; 2d do, Trans. Best sample starch from corn, S. Sil. Med. Best sample starch from wheat, S. Sil. Med. Best sample corn or wheat farina, S. Sil. Medal.

SILK AND DOMESTIC MANUFACTURES NO. I.

Best specimen manufactured silk, (woven into cloth or ribbons, not less than ten yards,) Dip. and $10; 2d do, 8; 3d do, 3.

REELED SILK.—Best specimen, not less than one pound, Dip. and $5; 2d do, 3; 3d do, Trans.

SEWING SILK.—Best specimen, Dip. and $5; 2d do, 3; 3d do, Tr.

COCOONS.—Best half bushel, (1851,) $5; 2d do, Trans.

Woolen Goods.—Best pair woolen blankets, $6; 2d do 4; 3d do. 2. Best ten yards flannel, 6; 2d do. 4; 3d do. 2. Best 10 yards woolen cloth, 10; 2d do, 8; 3d do. 3. Best 15 yards woolen carpet, 10; 2d do 8; 3 d do. 3. Best hearth rug 5; 2o do, 4; 3d do 3; 4th do. 2; 5th do. S. Sil. Med Best rag carpet, 15 yards, 5; 2d do, 4; 3d do, S. Sil Med.

DOMESTIC MANUFACTURES NO. II.

Best double carpet coverlet, $5; 2d do. 4; 3d do, 3; 4th do, 2; 5th do. 1. Best ten yards ke sey, 5; 2d do. 4; 3d do. 2. Best pair woolen knit stockings. 2; 2d do, 1. Best pair woolen wove stockings, 2; 2d do. 1. Best pair woolen fringe mittens. 2; 2d do, 1.

DOMESTIC MANUFACTURES NO. III.

Best 10 yards linen. $8; 2d do. 6; 3d do. 4. Best ten yards linen diaper. 6; 2d do. 4; 3d do. 2. Best 15 yards tow cloth. 5; 2d do. 2. Best pair of cotton knit stockings. 2; 2d do. 1. Best pair cotton wove stockings. 2; 2d do. 1. Best pair linen knit stockings. 2; 2d do. 1. Best pair linen wove stockings, 2; 2d do, 1. Best pound linen sewing thread. 2; 2d do. 1.

Articles in each of these domestic classes to be manufactured within the year—and in all cases the exhibitors must furnish evidence that the articles are so manufactured. And no article manufactured in factories, or out of the family, will be received in either of the classes of domestic goods, No. 1. 2. and 3. Exhibitors must accompany their articles with a certificate of their manufacture in the family, and within the year

Discretionary premiums will be awarded on articles of merit not included in the above lists.

MANUFACTURES OTHER THAN DOMESTIC.

Best piece of black broadcloth, not less than 20 yards, Diploma. Best piece of blue do, Dip. Best piece of woolen carpet, manufactory, not less than 20 yards, Dip. Best piece of satinet. 20 yards, Dip. Best piece of cotton shirting, bleached. 20 yards. Dip. Best piece of cotton shirting, unbleached. 20 yards. Dip. Best piece of oil cloth. 10 yards. Dip. Best piece of prints, 20 yards. Dip. Best piece of mousselin de laines. 20 yards, Dip. Best piece of black broadcloth, from American wool, 20 yards. Dip. Best piece of blue do do do. Dip. Best piece of blankets. Dip. Best piece of flannel. Dip. Best piece of woolen shawls, from American wool, Dip. and Sil. Medal.

Competition open to the world.

NEEDLE, SHELL, AND WAX WORK.

Best ornamental needle-work. $3. Best ottoman cover. 3. Best table cover. 3. Best group flowers, 3. Best variety of worsted work. 3. Best fancy chair work with needle. 3. Best worked cushion and back. 3. Best worked collar and handkerchief 3. Best woolen shawl. 3. Best worked quilts. 3. Best white quilts, 3. Best portfolios worked. 3. Best silk bonnets, 3. Best straw do, 3. Best lace capes. 3. Best lampstand mats. 3; 2d do. 2. Best ornamental shell work, 3; 2d do, 2; Best specimen of wax flowers, 3; 2d do. 2.

Discretionary premiums will be awarded for articles of merit not included in the above list; and small silver medals, to the number of twenty, may be awarded, and Transactions, Downing or Thomas on Fruits, and Norton's Prize Essay.

FLOWERS.

Professional List.—Greatest variety and quantity of flowers. $5; 2d do. 3. *Dahlias*—Greatest variety, 5. Best 24 dissimilar blooms, 3; 2d do. 2. Best single dahlia. 2. *Roses*—Greatest variety, 5. Best 24 dissimilar blooms, 3; 2d do. 2. *Phloxes*—Best ten varieties. 3. Best seedling. 2. *Verbenas*—Greatest variety. Silver Med. Best 12 varieties. 2. Best seedling. 2. *German Asters*—Best collection, Sil. Medal; 2d do, 2. *Pansies*—Best and greatest variety, 3. Best 24 varieties, 2.

Amateur List.—Greatest variety and quantity of flowers. Sil. Med.; 2d do. 3. *Dahlias*—Greatest variety, Sil. Med. Best 12 dissimilar blooms, 3. Best 6 varieties. 2. Best single variety, S. Sil. Med. *Roses*—Greatest variety. Sil. Med.; 2d do, 2. Best six dissimilar blooms. 3. *Phloxes*—Best six varieties. 3. Best three varieties. 2. Best seedling. 2. *Verbenas*—Greatest variety, Sil. Med. Best seedling. 2. Best six varieties. 3. Best 3 varieties. 2. *German Asters*—Best collection, S. Sil. Med. *Pansies*—Best and greatest variety. Sil. Med. Best six varieties. 2.

General List—*Open to all Competitors.*—Best collection of green house plants, owned by one person. Sil. Med.; 2d do, 3. Best floral design. Sil. Med.; 2d do. 3. Best floral ornament, Sil Med.; 2d do. 3. Best hand boquet, *flat*, 3; 2d do. 2. Best hand boquet, *round*, 3; 2d do. 2. Best basket boquet with handle. Sil. Med. For the most beautifully arranged basket of flowers. Sil. Med. Best floral exhibition by any Horticultural Society, Loudon's Encyclopedia of Gardening. Best exhibition of dried specimens of plants, Sil. Med. For newly discovered varieties of plants Sil. Med.

FRUIT.

Apples.—For the largest and best varieties of good table apples, 3 of each variety, named and labelled, grown by exhibitor. Dip. & Hovey's Colored Fruits; 2d do, 5; 3d do, Trans For best twelve varieties of table apples. 5; 2d do, Trans and 2. For best fall seedling apple, for all purposes, with description of tree, history of its origin, &c., one dozen specimens to be exhibited, 5. Best basket of standard fruits. Sil. Med.

Pears.—For the largest number of varieties of good pears, named and labelled, Dip. and Hovey's Colored Fruits; 2d do, 5; 3d do, Trans. For the largest and best collection of autumn pears, named and labelled, Dip and 5; 2d do. Trans. and 2. Best collection of newly introduced pears, with a description, &c., Dip. & Hovey's Colored Fruits.

Peaches.—Best six varieties, named and labelled, Dip. and 5; 2d do. 3. Best three varieties, named and labelled, 3; 2d do. Tr. Best twelve peaches, 2; 2d do, Trans. Best seedling variety, six specimens, 3

Plums.—Best collection of plums, six specimens each variety, Dip and 5; 2d do. 3. Best 4 varieties of good plums, 6 specimens each. 3; 2d do. 2. Best 12 plums, choice variety. 2; 2d do, Trans.

Nectarines.—Best and largest number of good varieties, six specimens each, 5; 2d do. 2. Best 12 specimens of any good variety 2; 2d do. Trans.

Quinces.—Best 12 quinces of any variety, 3; 2d do. Trans.

Grapes.—Best and most extensive collection of good native grapes grown in the open air. 5; 2d do. 2. Best 3 varieties of native or foreign grapes, grown under glass, three bunches each to be shown. 5; 2d do. 2. Best dish of native grapes. Trans.

Watermelons.—Best specimen of any variety. 3; 2d do, 2. Best collection of watermelons. 3.

Muskmelons.—Best specimens of any variety, 3; 2d do, 2. Best collection of muskmelons, 3.

Cranberries.—Best peck of domestic culture. 5; 2d do, 3.

To be accompanied with a full description of the manner of cultivation, nature of soil, &c.

Any premiums may be withheld, in the discretion of the committee, if the samples exhibited are not worthy of a premium.

The fruit exhibited for which premiums are awarded, to be at the disposal of the committee.

No person can receive but a single premium on the same fruit.

12 volumes of Downing, common edition, and 12 of Thomas' Fruit Culturist, will be awarded by the committee in their discretion, for choice fruits not enumerated.

FOREIGN FRUITS.

For best exhibition of each variety of fruit named in the above list, by persons out of the State, 8m. Sil. Med. and Trans.; 2d do, Downing or Thomas.

Volumes of Downing or Thomas will be awarded by the judges in their discretion, for choice fruits not enumerated.

PAINTINGS, DRAWINGS, ETC.

Best specimen of animal painting in oil, by American artist, Dip or Sil. Med. Do. do. in water colors, Dip. Best specimen of animal painting in oil, by foreign artist, Dip. Do. do. in water colors Dip. Best specimen of cattle drawing, Dip Best drawing of show grounds for Society, Dip. Best portrait of some animal of merit of an improved breed, (the painting to be the property of the Society, on approval by executive committee,) $25. Best specimen of paintings of fruit, Dip. Best daguerreotype of any domestic animal Dip.

STOVES.

Cooking.—Best cooking stove for wood fire, Sil. Med.; 2d do, S. Sil. Med. Best cooking stove for coal, Sil. Med.; 2d do. S. S. Med. Best cooking range for families, Sil Med.; 2d do, S. S. Med.

Best furnace or other apparatus for warming houses, economy of construction and consumption of fuel, and security to premises to be taken into consideration, Sil. Med.

Best ornamental parlor stove, Sil. Med.; 2d do, S. S. Med. Best hall stove, Sil. Med.; 2d do, S. S. Med. Best sample of hollow ware, S. S. Med.

SILVER WARE, CUTLERY, AND BRITTANNIA WARE.

Best exhibition of silver ware, Sil. Med. Best exhibition of silver table cutlery, Sil. Med. Best exhibition of table cutlery, American manufacture, Sil. Med.; 2d do do. S. S Med. Best exhibition pocket cutlery, American manufacture, Sil. Med.; 2d do do. S. S Med. Best specimen of silver ware with agricultural designs suitable for premiums, Sil. Med.; 2d do, S. S. Med. Best specimen of argentine and brittannia ware, Sil. Med.; 2d do, S. Sil. Med.

MISCELLANEOUS ARTICLES.

Best iron gate for farm purposes, Dip. Best ornamental cast iron vase on pedestal, Dip. Best water pipe, of water lime or other durable material other than iron or lead, Dip. Best sample drain tile, Dip. Best drain tile or pipe draining machine, Dip. and $10. Best quarter acre osier willow and the specimens of product manufactured, $5. Best wire hurdle fence, Dip. Best water ram or other hydraulic apparatus, Sil. Med. Best wire fence for farm purposes, with full description, cost of construction, and evidence of its adaptation to practical, beneficial, and economical uses, Sil. Medal.

DISCRETIONARY DEPARTMENT.

For improvements in machinery useful to the farmer, and having valuable properties, and not included under any head of any of the regular premiums, discretionary premiums will be awarded.

Under this general head, premiums will be awarded upon articles of ingenuity, usefulness, and merit, which may be exhibited, which are not provided for in the foregoing list of premiums; and they will be classed as follows:

No. 1. *Agricultural implements, or machinery for agricultural purposes not before named.*

No. 2. *Machinery of metal composition for general uses.*

No. 3. *Articles constructed of wood.*

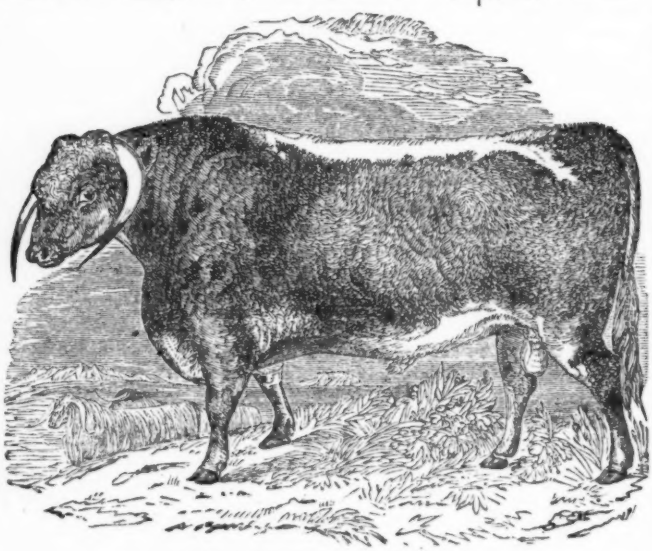
No. 4. *Articles manufactured of leather, India rubber, gutta percha, &c., and not before named.*

No. 5. *Articles composed of cloth, fur, &c, such as caps, hats, furs, umbrellas, &c., not before named.*

In these several Discretionary Divisions, Diplomas, Small Silver Medals, Norton's Prize Essay, Transactions, &c., will be awarded as the importance of the articles may demand. The Diploma is in all cases evidence of superior merit.

A NEW WORK ON CATTLE.

We have just received from C. M. Saxton, of New York, a book on cattle, of some 500 pages. It is edited by Ambrose Stevens, well known as an importer and breeder of stock, who has usually presented some of the best specimens at our State Fair. It is an abridgement of Youatt and Martin, English authors — but perhaps we could not better give a description of the work than by copying a portion of the editor's preface :



NEW LEICESTER LONG-HORN BULL.

"In presenting an edition of Youatt to the American public, the American editor may justly say, that, of all the treatises on cattle, none is so valuable as his. Mr. Youatt was a man of rare ability ; a scholar, distinguished for the extent, variety, and elegance of his attainments ; for his power of research, historical and scientific ; for the brilliancy of his style ; and as a veterinary surgeon of profound knowledge, in both the science and practice of his art, and of devotion to its pursuit. Scarcely any man of all the world was so happily fitted as he, to produce a great historical and medical work on cattle.

"In preparing this treatise for publication, the American editor has abridged it of the history of local and inferior breeds of cattle in England, in which the American farmer and amateur has no interest. There is not a page in the whole but has been carefully considered, and, where it required, its matter advanced to the present state of knowledge on the subject. In doing this, many works on the subject, published since Mr. Youatt's, have been examined. The chief of these is, The Ox, by Mr. W. C. L. Martin, one of the officers of the London Zoological Society, a work never published in this country.

"The editor has consulted three recent German treatises on the diseases of cattle. The most valuable of these is by Gunther, who has applied homœopathy to animals. In addition to the ordinary modes of practice, the editor has given the treatment of Gunther. It is within his knowledge that the prescriptions of homœopathy have been eminently successful in the diseases of both horses and cattle. This method of managing their diseases will be valuable to those who adopt the school of Hahnemann, while it detracts nothing from the work as a manual of ordinary veterinary practice."

The work is fairly printed, and the character of the engravings may be seen by the specimens we give of long and short-horn cattle. We have not space this month for any description, or for further extracts from the work ; but those who want a good book on cattle, with descriptions of the various breeds in England and this country, can not do better than purchase this book, as it contains the information heretofore confined to expensive English works. — Those who have had no experience in the matter, know little of the high cost of English books, as compared with American. We have often paid from five to ten dollars for an English work that if published in this country would sell at from one to two dollars. The present work sells at $1.25, and after the new post-office law takes effect, can be sent by mail to all parts of the country. For sale at our office, and we presume by booksellers generally.

THE REV. H. BERRY'S SHORT-HORN COW.

POULTRY.

We have received from the publishers, E. H. Butler & Co., of Philadelphia, a new work on Poultry, by Dr. Kerr, of Philadelphia, or rather a re-print of Dixon's English work, with additions by the American editor, and his numerous correspondents, who are among the most extensive and best informed poultry breeders of the country. Mr. Eben Wight, of Dedham, Mass., has also presented us with specimens of his *White Shanghae* fowls. Mr. W. furnished a description and portraits of these fowls for Kerr's new work, which we copy for the benefit of our readers:

DR. EBEN WIGHT'S WHITE SHANGHAE FOWLS.

"Among the many varieties of the Gallus race which have been introduced into the New England States from China, there is no variety which possesses so many good qualities as the White Shanghaes.

"The White Shanghaes are larger and more quiet than other varieties. The flesh of these fowls is much superior, not sinewy or "stringy," as is the case with the flesh of most of the other Shanghaes. The eggs are larger, and these hens are more prolific than those of other colors.

"In their habits they are more quiet, and less inclined to ramble. These habits render the hens invaluable for incubators and nurses, and the mildness of their disposition makes them excellent foster-mothers, as they never injure the chicks belonging to other hens. I am induced to speak more fully of these characteristics, from the many vexatious losses I have suffered in the experiments I have tried.

"I have imported different breeds of fowls from Europe and elsewhere, and have received from many friends specimens of choice fowls, and my endeavors to propagate them have been frustrated by the rambling or quarrelsome disposition of the hens which I have been obliged to use for incubators and nurses. I have lost, oftentimes, by quarrelsomeness of the hens, their entire broods; for instance, the Game hens are constant sitters and careful nurses to their own chickens, but are exceedingly cruel to those of other hens. The moment one of their chickens is injured, a fight is commenced, and the chickens, alarmed at the turmoil, crowding around their dams, are many of them killed, and the victorious hen, after her opponent has retreated, will attack every chick within her reach, and oftentimes, in her desire for revenge, mistaking her own chicks as belonging to her antagonist, destroys them. In the mean time the vanquished will destroy every stranger's chick that comes within her reach.

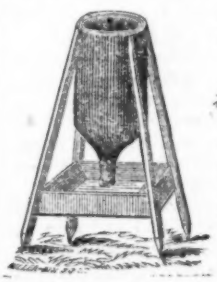
"Having, as I before stated, met with many vexatious losses, I, as you must readily conceive, do most highly prize the White Shanghae fowls for their quiet dispositions. These fowls are not sluggish or stupid; on the contrary, they are intelligent and confiding. To persons who have the "everlasting layers," the Black Spanish, for instance,—a breed that never shows the slightest desire to incubate,—the White Shanghaes are invaluable for the purpose of rearing chickens.

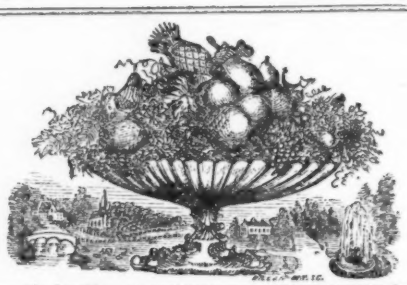
"The fowls of which the artist made the drawing from which the portraits are engraved, were imported from Shanghae, and were there purchased as a pure race, and were warranted as such. I received them directly from the ship, and as evidence of the purity of blood, I mention that every egg that has been laid has incubated, and every chick that has been hatched has been uniformly white, and there has not been the slightest variation in form or plumage.

"These fowls will rank among the largest coming from China, and, as a proof that they thrive well in this climate, I will instance that one of the progeny, a cock, not yet eight months old, being one of the first brood hatched, weighs fully eight pounds, and the pullets are proportionably large."

We have to thank Capt. Dakin, of Geneva, the gentlemanly navigator of Seneca Lake, for a Poultry Fountain, just come safe to hand, and of which we have had an engraving made, for the benefit of those who keep poultry. It is simply a common earthen jar, with a little basin in front, and a small hole in the jar, through which the water passes to the basin. This hole must be closed while filling the jar, which is then corked tight and the plug at the bottom removed. The basin is thus filled from the jar and kept full. This is the most convenient arrangement for watering fowls that we ever noticed.

For those who are unable to procure the above, we present a drawing of another on the same principle, which we have used—simple, and easily constructed. An ordinary junk bottle forms a reservoir; the trough below contains very little water, and is never overflowed. Pointed lath, nailed to the sides and stuck into the ground, keep the whole upright.





Horticultural Department.

EDITED BY P. BARRY.

A GOSSIP ABOUT WINTER, SPRING, &c.

In our region the winter has been comparatively mild, nothing seems to have suffered from cold, and at the present moment there is a fine prospect for a fruit crop. Early in the winter, before the ground was frozen, we had an extraordinary fall of snow—in 48 hours it fell to the depth of two or three feet, and in many places accumulated in heavy drifts, doing serious injury to young trees—more indeed than we have seen done in the ten previous years, all put together. The ground being warm below, it thawed and settled rapidly, carrying down branches and whole trees with it. Many beautiful garden trees of several years careful nursing have been ruined. This is one of the draw-backs upon cultivators; but we are not to be discouraged by it in the least. The like may not occur again in ten years, nor perhaps in our lifetime. We must train up new branches and new trees to take the place of those destroyed.

The life of a cultivator is not, after all, so easy—so free from cares and disappointments. If his magazines are not laid in ashes by a sweeping conflagration, nor his ships buried beneath the angry waves of the ocean, nor his wares depreciated by a fall of stock, bankruptcies, or revolutions, his hopes are not unfrequently blasted by blight, by hail, by drouth, and by snow storms. He has enough in his own way to prevent him forgetting his weakness and his dependence upon a higher power. These little adversities are good for us; they not only humble us, which is a great point, but they awaken us to increased energy—they stir up our inventive faculties, and lead to discoveries that ultimately prove of great value. The pear blight, for example, has directed people's attention to the investigation of vegetable physiology more effectually than if a thousand men had been engaged to lecture upon the subject through the country for years. The destruction of insects, the effects of dry and wet seasons, of frosts, snows, &c., all elicit experiment and research, that in the end promote the general good; so that these disappointments, sad and sickening though they sometimes be, are perhaps always "blessings in disguise."

Spring has opened with us unusually early. The deep covering of snow excluded frost; and as soon as it disappeared, we were at once able to commence out-door operations. We commenced digging trees the first week in March, which is rather unusual in Western New York, and we have not been interrupted by rain or frost a whole day since. During the last week in March we had a few days of warm, May weather, that started the buds, and bade fair to give us a spring of remarkable earliness; but a sudden change came about, and we have had dry, cool, fine weather ever since, without any frost worth naming, and vegetation has remained where it was. Apricots on a south wall have been in blossom for ten days past, but no blossoms have yet expanded in the open ground. This shows the influence of a south exposure, and illustrates the impropriety of placing early blooming trees, like the apricot, in localities subject to late spring frosts, unless a proper protection be given.

In the flower garden, crocuses are passing out of bloom, spring colchicums, with their bright lilac flowers close to the ground, are in perfection, and hyacinths are begining to open. Pansies and daisies are quite gay; and the early phloxes, such as *elgans*, just opening—another day or two and they will be as brilliant as possible. For a mass of bright, early, spring flowers, this phlox elegans is really unsurpassed. It seems astonishing how these little delicate looking flowers can bear so well a temperature so steadily cold—but a degree or two above the freezing point continually, with frost at night.—In the woods, the scarlet maples, the poplars, willows, and elms are in full blossom, and present a strange contrast with the naked and lifeless looking branches of their neighbors. To some of our citizens who do not get abroad into the woods and fields, the blossoms of the maples, elms, and poplars, along the streets, are the first appearances of spring.

The markets are yet tolerably supplied with old vegetables, such as parsnips, cabbage, and such common things. A few apologies for lettuce and raddishes have appeared, but nothing that we have seen fit for table. We think our markets ought now to warrant gardeners in forcing good things; we ought now to have *rhubarb*, *asparagus*, and *sea kale*, with abundance of *radishes*, *lettuce*, &c.

There appears to be no abatement of the tree planting spirit, but rather an increased activity in this as in gardening matters in general. Both in city and country the cultivation of fruit trees is becoming every year more and more attended to. Every conveyance that leaves our city, carries with it trees, and the importations of our nursery-men load train after train of cars on the railroads. Almost every person one meets is carrying trees, or is in some way busying himself about them, and on all sides and in various ways one can see indication of that general taste for planting that so happily is possessing people now-a-days.

We cannot now treat of the care required by new planted trees, but must refer to the May number of the last volume, which offers some suggestions on this point that are worthy of attention.

"The secret of Vegetation."—In our account of the proceedings of the State Ag. Society at Albany, it will be remembered that a committee, of which A. J. Downing was a member, was appointed to investigate what purported to be the discovery of "the secret of vegetation," by a philosopher in Dutchess Co. Mr. Downing, in the April number of his journal, makes a most humourous and sarcastic report on the subject, in the form of a *dog story*—the best thing we have read in a great while, and exactly the way to treat such a nonsensical assumption. We trust the gentleman feels at ease now, over this wonderful discovery.

THE FLOWER GARDEN, OR BRECK'S BOOK OF FLOWERS; in which are described all the various Hardy Herbaceous Perennials, Shrubby Plants, and Evergreen Trees, desirable for ornamental purposes, with Directions for their Cultivation. By JOSEPH BRECK, Seedsman and Florist, and former Editor of the New England and Horticultural Register. Boston: JOHN P. JEWETT & Co. 1851.

A GLANCE at this book gives us the impression that it will be highly acceptable at this moment. For years we have had the question put, "What book can you recommend us for a guide in the cultivation of ornamental trees and plants?" We have never been able to give a satisfactory reply, for such information could only be found in the perusal of half a dozen volumes, many of which would be considered too costly by most people. This book of BRECK'S seems to be just the thing, as far as it goes. It appears to be plain, practical, and concise—much in little, and that little to the point. It is cheap, too, and that is important, because it places it in everybody's reach. It treats of nearly all the popular trees and plants, from the daisy to the cedar of Lebanon, in a way that we think will meet the approval of most people in the country. Our lady friends who are so industriously picking up floral beauties for their gardens, will do well to cultivate an aquaintance soon with Mr. BRECK, through his "Book of Flowers." By-and-by, when the busy season is over, we will give it a more attentive examination. In looking for a few favorites of our own, to see what Mr. BRECK had to say of them, we find a great many omissions not quite pardonable: for instance, among the pines, one of the finest and noblest of them all, the *Excelsa*, is not mentioned. In speaking of the weeping ash, no note is taken of the beautiful *Gold barked* variety. The graceful *Sophora pendula* is also forgotten. Among the spruces, *Abies excelsa*, the Norway, is called *Abies communis*; and the charming new Himmalayan spruce, *Abies morinda* or *Smithii*, is not mentioned at all. This we consider as really one of the most elegant of all evergreen trees. The European Silver Fir, *Picea pectinata*, is classed erroneously with the spruces, under the name of "Abies pulcherrima of Virgil." Among shrubs, too, we find some of the most beautiful things now under cultivation quite omitted, while many others are described that might as well or better have been left out, according to our taste.

PEARS.—The *Louise Bonne de Jersey* and *Louise Bon d' Arranche* pears, Mr. DOWNING says, are quite different, as he saw them side by side on the tree in the *Jardin des Plantes* at Paris. We cannot understand this, for we have imported trees under both of these names for eight years past, and have always found them the same. They are considered as synonyms both in France and England, as far as we are aware, and it is possible that M. CAPPE has made a mistake.

Mr. DOWNING speaks of the *Belle Alliance* as being a large and exceedingly beautiful fruit of very good quality, and presenting on the tree, one of the finest sights he remembers to have seen in a fruit garden.

THE WHITE BELLFLOWER APPLE.

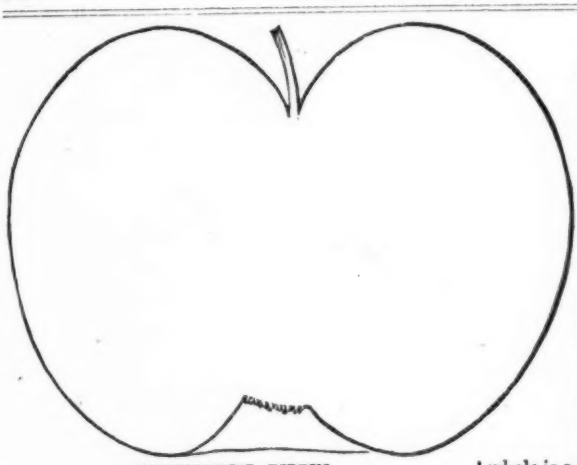
Bellfleur White of Downing; *Ortley* or *White Detroit* of Thomas; *Ortley Pippin*, *White Detroit*, *Warren Pippin*, &c., of the west.

THIS was one of the finest fruits we noticed at the exhibition at Cincinnati last autumn. Specimens were presented in many collections, and all of them were remarkably fine. It is unquestionably a *first rate* fruit for the west. We brought some specimens home with us, and notwithstanding all the carriage and handling they have passed through, they are at this moment (15th March) perfectly fresh and sound—flavor as perfect as in January. The annexed outline is from one of them. Size large. Form conical, generally a little one-sided. Color pale yellow or clear straw color, with a tinge of pink next the sun. Stalk nearly an inch long, slender, and pretty deeply inserted. Calyx closed, in a pretty deep basin, sometimes slightly plaited. Flesh white, crisp, juicy, mild sub-acid, rich and fine flavored. To our taste there is nothing superior at this moment. Tree a fair grower, with slender shoots. Nov. to April.

AGRICULTURAL EDUCATION IN MASSACHUSSETS.—We are indebted to the Hon. M. P. WILDER, of Massachusets, for a copy of the report of the Commissioner appointed by the Governer and Council of that State, to consider the subject of agricultural schools.

We find this a valuable and interesting document, containing much information respecting the plans on which the most celebrated of European Agricultural institutions are founded, and their system of instruction, besides the outline of a plan for agricultural education in Massachussetts.

We are also indebted to the same gentleman for a report of the proceedings of the "Associated Agricultural Convention," which met in Boston on the 20th of March, to concert measures for the promotion of Agricultural education. The call for this convention was issued by the Norfolk Society, of which Mr. WILDER is the President. Massachussetts is determined to be foremost in this great work. Our "Empire State" is asleep on this subject.



MONMOUTH PIPPIN.
Red Cheek Pippin.

This apple is grown in a few orchards in this neighborhood, and every season in the month of April, it appears in our market, and never fails to attract attention by its fair appearance and fresh, fine flavor. It was originally brought here from New Jersey, where it originated. *Size* large to medium, roundish similar in form to a Rhode Island greening, stalk short, deeply sunk, calyx open, deeply sunk, skin thick, greenish yellow, with a dull red cheek. Flesh yellowish white, crisp, juicy and perfumed, keeps well and retains it flavor and freshness admirably. Tree a very fine upright grower and good bearer. November to Nay. Well worthy of attention as an orchard fruit, always commanding the highest price in its season.

Specimen Pear Trees.—A short time ago, when in Boston, we made a hasty visit to the nurseries of Messrs. Hovey & Co., of Boston. We found their green-houses and conservatories greatly extended and improved; but the most interesting feature about the establishment, to us, was their extensive collections of pears and their well managed trees. In number they comprise thousands. They are planted in borders along the walks, at six feet apart, and are conducted in pyramids, or low standards. Few of them exceed seven or eight years of age, and yet they are generally in a fruitful state. They are the most creditable examples, without any exception, to be found in any American nursery, and form a school in which valuable lessons may be taken in the art and science of tree culture. Among new pears recently tested, Mr. Hovey speaks very highly of the *Duchesse d' Orleans, Beurre Langelier, St. Dorothe* and *Triomph de Jodoigne.* The *Swan's Orange* sustains its character well; Mr. Hovey has many fine young trees of it, showing a profusion of fruit buds, and some of them have already borne fine specimens.

Acknowledgments.—We are indebted to B. P. Johnson, Esq., of Albany, for the April number of the Journal of the Agricultural Society. We learn from it that Governer Hunt has appointed Mr. Johnson delegate on the part of the State, to the World's Fair in London. Letters to Mr Johnson may be addressed to care of P. Thompson. Esq., No. 5 Bank Chambers, Lothberry, London, (post-paid.)

—To James H. Watts, Esq., for fine specimens of Northern Spy and other apples.

A SEEDLESS APPLE.

Mr. Editor:—Permit me, through the columns of the Farmer, to give a short account of one of nature's freaks, as a matter of curiosity; and to ask of some of your thinking readers an explanation of it. In an old orchard, my father has a large and thrifty apple tree, bearing a fine flavored and finely formed apple, having a dark yellow skin. Now, the peculiarity of this fruit is, that as long as we have been acquainted with it, it has been found wanting in seeds, except in a very few instances, where it contained one or two. The core of this apple, (if it may be said to have any,) is very small, and it is no preventive or objection to its being sliced through, for all culinary purposes. This apple has a rather thick skin. It keeps well till late in the spring, and on the whole is a very good fruit. Specimens of it have been shown to a number of people, some of them eminent nurserymen, but none of them have been able to give a satisfactory solution of the enigma. Perhaps some of your readers may be acquainted with similar instances, and with the process by which this great curiosity was produced; if so, I should be glad to hear from them. F. D.—*Ballston Center, N. Y.*, 1850.

ANSWERS TO CORRESPONDENTS.

Hedges.—(J. P. Serviss, Hillsdale Co., Mich.) The apples of the thorn, when gathered, should be placed in a *rot-heap* mixed with earth, to remain there during the next season. They should then be sowed in drills, and at the end of the first or second year's growth, will be fit for the planting in hedge rows. *Dwarf trees* are produced both by budding or grafting on certain stocks, and by certain modes of pruning.

(A. E. W., Genesee, Mich.) We have not observed such an insect as you describe. The principal insects that attack young shoots of fruit trees, are the aphides, and they do not sting, but suck the juices. Catalogue has been forwarded.

(D. Webb, King's Ferry, N. Y.) Cherries are dwarfed on *mahaleb* stocks, raised from seed; pears on *quince*, raised from layers or cuttings; and apples on *Paradise*, or *Doucain*, from layers. You can usually purchase these stocks in any of the leading nurseries. You will find such a book as you speak of advertised. Scions can be sent by mail in a letter, with safety.

(S. H. Wheeler, Girard, Pa.) Buckthorn will suit you best. Honey Locust will also make you a good hedge.—Seeds of either can probably be obtained at the principal agricultural seed stores. We have written you.

(D. S., Shiremantown, Pa.) The Great Bigarreau cherry can be had of Charles Downing, or A. Saul & Co., of Newburgh. We are much obliged for the information concerning the Gen. Hand plum.

(James Edgerton, Barnesville, Ohio.) The great requisition in a quince stock, is vigorous growth. In this particular the common apple or Orange variety is deficient, compared with others, and pears are stinted on it, and do not form a perfect union.

(H. T. Woodward, Beloit, Wis.) You can probably obtain a copy of the proceedings of the New York Pomological convention by applying to A. J. Downing, Esq., of Newburgh, or S. B. Parsons, of Flushing, L. I. Those of the Cincinnati convention, of B. Hodge, of Buffalo, or F. R. Elliot, of Cleveland, Ohio. The Tartarian Honeysuckle is easily propagated both by *layers* made in summer, and cuttings taken off in winter. They root as freely as the currant.

Names of Fruits—"Tart Bough," for aught we know to the contrary, is a synonym of the Early Harvest. Royal, Hertfordshire, and Winter Pearmain, all mean the same thing. "Steele's Red Winter" is a synonym of the Baldwin. "Ortley Pippin" is a synonym of Detroit of the west, or White Bellflower. Early Red Margaret is the true name, and so is Early Sweet Bough—Large Yellow Bough of Downing.

Ladies' Department.

THE FLOWER GARDEN.

CULTURE OF ANNUAL FLOWERS.—To succeed well in this, there are a few points that should be well considered :—

1. The ground must be deep, rich, and mellow, of such texture as not to harden or bake with rain and drouth. When the seeds are sown, it must be as finely pulverized as it is possible to be ; because the seeds are generally small, and require a very light, even covering, which can only be given in a *fine* soil. When hard, stiff, or lumpy, the seeds get buried too deep and beyond the reach of a sufficient quantity of air, and heat, or they are exposed to an excess of air, and either do not germinate or perish during the process. *Richness* is indispensable, if a luxuriant growth and brilliant large flowers are wanted, and this especially for the more robust species. For succulent plants, such as the portulaccas and mesembryanthemums, a dry, poor soil, will do well enough. They derive a great portion of their nutriment from the aerial gases. Balsams and coxcombs in particular require high feeding, and therefore a rich, deep soil.

2. The *seeds must be sown at a favorable time.* If put in the ground too early, they rot from the want of sufficient heat to effect the process of germination and assist their growth. We generally succeed best by sowing in the open border, about the first to the middle of May, and generally the latter. If the weather be very dry, water must be applied in the evening through a fine rose of a watering pot. Heat, air, and moisture, are the great agents of vegtation.

4 *Transplanting.* Many things do well by being sown where they are to bloom—the nemophilas, portulaccas, mesembryanthemums, and mignonette, for example ; but the better way in general is to sow the seeds in a well prepared border, and transplant them into their permanent situation, when an inch or two in height. This should be done in a moist, dark day, or evening. The earth being wet, adheres to the roots, and especially if taken out with the point of a trowel.

4. *Arrangement.* Where they are scattered along a narrow border of a walk, the arrangement requires little skill ; but when they are grouped in beds or figures on a lawn, care should be taken to place the tallest in the center, having the dwarfs or lowest at the edge. They should not be crowded, each plant should have space enough allotted it to obtain its full natural habit and dimension, as nothing looks more confused or disagreable than a crowded mass of promiscuous flowers. A mass of verbenas, or dwarf phloxes, may run into each other with propriety ; but different species should be seen distinctly and separately.

Bedding plants. A flower garden composed of verbenas, petunias, fuchsias, heliotropes, cupheas, salvias, scarlet geraniums feverfews, everblooming roses and such things, is much easier managed than that composed of annuals ; for the plants, when turned out of pots about the last of May, or begining of June, are in bloom in a few weeks, and with a little attention to tying up, pegging down, and triming, continue in bloom till frost comes ; while a succession of annuals is required for a succession of bloom. The bedding plants are therefore better for those who have little leisure. They, too, must have a rich deep, and mellow soil, and in dry weather copious supplies of water, and some liquid manure occasionally, to sustain their vigor ; for if they cease to grow, they cease to bloom—the flowers being produced on the new shoots.

THE FUCHSIA.

We are pleased to see the interest felt by ladies in the cultivation of flowers. When we offered, in the March number, "a small collection of flower seeds to those who applied in season," we supposed that a hundred or two of packages would have supplied the demand ; but we are gratified that our calculations were far below the mark. We have already sent the two hundred packages we at first prepared, and have now more than five hundred applications ; and this is not all, for "still they come." The seeds of our own raising, and a few that we procured from Europe, are nearly exhausted ; but by further purchases and collections from our friends, we shall endeavor to supply the demand. We may not in all cases be able to send all the kinds we should prefer to, and shall have to give them in small quanties, but we shall send only those that are good, and, under the circumstances, do the best in our power for the lovers of flowers, regardless of trouble or expense.

The cultivation of flowers affords the most innocent and refined pleasure. It is a pleasure cheaply purchased, and within the reach of all—alike accessable to the rich and the poor. It enlivens the gloomy mind, and invigorates the feeble frame. The moral lesson taught by flowers is worthy of attention. Their beauty refines the taste and improves the heart. Flowers afford food for reflection—"Consider the lilies of the field, how they grow ; they toil not, neither do they spin, and yet I say unto you that even Solomon in all his glory was not arrayed like one of these."

Youths' Department.

A WALK THROUGH THE GARDEN IN MAY.

Foreigners universally express their surprise and delight at the beauty of the American Autumn.—Those fine, smoky days in November, when the woods assume their richest dress, coloring the waters of brooks and streams with the most beautiful shades of scarlet and crimson, are unknown we believe in any other part of the world. But who praises the American Spring? Occasionally we have a fine warm day, but it is only occasionally—few and far between—while cold winds and rains are common enough. Yet we should not complain, as this weather keeps back vegetation, and gives us more time to plant trees, and shrubs, and arrange our walks and beds, and prune and get every thing in order for fine weather. Too many neglect these things during the unpleasant weather in spring, and consequently they have every thing to do at once, and are a little behind during the whole season. But this is not the case with our garden, as you will see on passing through it. As we promised to visit the garden again this month, we will see what progress has been made. You will notice that the roads are all now in complete order, and the general appearance of the garden entirely changed since last month. Then everything looked unfinished—ground partly dug and partly planted; now it has much more of a finished appearance, and looks in better order.

The *peas* we noticed last month as just making their appearance, have grown so rapidly that they need sticks, which you see placed to support them. Others are just appearing above the ground. These were sown later, and when the first have done bearing these will supply their place.

The *pie plant*, or *rhubarb*, now has large leaves, and long leaf stalks, fit for use. *Currants*, and *gooseberries* are now in leaf and blossom. The peach buds are swollen, and the earlier kinds just bursting, and unless we have frosty weather as the trees are going out of blossom, we shall probably have a good crop of this delicious fruit.

Under the shelter of the fence we see the gardener sowing radish seed. Radishes to be worth eating, must have a very rapid growth, otherwise they are hard and worthless. They require mellow, warm ground. In England they generally cover radish beds with a top-dressing of coal ashes, giving them a black and singular appearance. Wood or coal ashes might be used to advantage in this country.

Beets and *carrots* are sown, and these require a very deep soil, as the roots extend into the earth, and it is impossible to get well formed roots, unless the ground is dug or plowed deep and well pulverized. We have seen the blood beet two feet in length. How could it have grown to such a length if the ground below six or seven inches had been as hard as it is in its natural state?

Beans are very tender, and a slight frost destroys them after they are above ground; so they are not yet planted, and will not be until nearly the last of the month. The most delicious of all beans is the *Lima*. They require long and strong sticks, and are fine when used as shell beans in the summer, or dry for winter. Every body should plant a few Lima beans. They like a dry, warm soil, a little inclined to be sandy.

In the *hot-bed* you see lettuce and radishes fit for use, and *celery*, *tomato*, and other plants, almost ready to put out in the open ground. But it is not too late yet to start celery or tomato plants. Once we started them in a warm sunny situation on the first of May, without heat from manure, merely by placing a few boards around and covering them nights, and had them ready to transplant in pretty good season.

Melons and *cucumbers* are now sown in the open ground, though in the hot-bed you will see melon plants in pots. These will be placed in the open ground the last of this month, and will be earlier than those started from seed in open ground. But those who have a warm sandy soil, can raise good melons without this trouble.

Asparagus is a great luxury, and as the gardener is now making a bed, we will notice his operations. The plants he is placing in the bed are two years old from seed. The seed is sown in the spring, in drills about one inch deep, and twelve inches apart. Some at this stage water them with boiling water. They are then covered, and the earth well pressed down. In two years the plants will be ready to transfer to beds. Those who live near nurseries had better buy plants, as they will thus obtain asparagus for use two years earlier. As we can not stay to see the whole operation of making the asparagus bed, I will explain it: Mark out a bed about four and a half feet wide, and as long as is needed, dig out the surface earth three inches deep, and lay it on the sides of the bed; then spread short well-rotted manure three inches thick over the bed, dig it well in, and smooth off with the rake; then line out four rows on the bed length-wise twelve inches apart, and the two outer rows nine inches from the edge of the bed. Place the plants flat on the rows twelve inches apart; this will make them twelve inches apart each way; then fill up the bed with the earth taken out, and dress it neatly off with the rake.

In cultivating the garden, as in everything else, it is necessary to do whatever you attempt, *well*.—Dig deep and make the soil fine; this is digging well. Manure well, for manure is the food of plants, and without this food they will either die from starvation, or be poor and sickly and worthless, if they find enough in the soil barely to sustain life. In the next place, sow the seed carefully, so as to have it even all over the bed—not too thick in some parts, and too thin in others, as is too often the case.—Then take good care of the plants when they come up, by destroying all the weeds that interfere with their growth, and take the food from the soil which your plants need. Keep the ground mellow, so that the air can penetrate, and the rains descend to nourish them. If they require brush like peas, or poles like beans, to sustain them, furnish them early, a little before needed; for if a little too late, the plants droop and become injured and never obtain a good form. If done early, you have the satisfaction of seeing the fruit of your labor; if too late, you have had all the trouble and very little compensation. So it is with farming and gardening operations generally; he that expends his time and labor in doing things *well*—and to be well, of course must be seasonable—is generally satisfied with the result of his labors; but he that half does things never gets paid even for the labor actually bestowed. And this is right, and in accordance with nature and revelation. He that improves his talent shall receive still others; but he that improves it not, shall lose even that he has.

Editor's Table.

GIVING CREDIT.—The Albany Cultivator and American Agriculturist have had considerable to say reprobating the common practice of copying articles, and using other men's knowledge without giving due credit We have suffered depredations of this kind so long, that they very rarely provoke a passing remark. It would be an easy task to fill a volume with plagiarisms perpetrated on the senior editor of this paper. In 1845 and 1846 we published in the Genesee Farmer sundry articles on the culture of wheat, showing, from our chemical researches, the intimate relation that subsists between clover and this important cereal. On page 56, volume 7, we use the following language :

"There are 7.7 lbs. of ash in 100 lbs. of dry clover. If this crop be taken from a field for a number of years, without making restitution, it will be found quite exhausting, notwithstanding the power of clover to draw its organic nourishment from the atmosphere. An acre of stout clover, when perfectly dry, has been known to weigh 3693 lbs., containing 283 lbs. of ash. This is some 60 lbs. more than is removed from an acre in a fair crop of wheat. It is useful to study the mineral elements of this plant in connection with those of wheat. In 284 lbs. of the ash of clover there are of

Phosphoric Acid,	18.00 lbs.
Sulphuric Acid,	7.00
Chlorine,	7.00
Lime,	70.00
Magnesia,	18.00
Potash and Soda,	77.00
Silica,	15.00
Oxide of Iron and Alumnia,	00.90
Carbonic Acid,	71.00
	283.90 lbs.

"Throwing out of the account the 71 lbs. of carbonic acid, we have 213 lbs of earthy matter. An acre of wheat needs, to form both seed and straw. 17 lbs. of phosphoric acid An acre of good clover will furnish 18 lbs. That quantity of wheat needs 2 lbs of sulphuric acid. An acre of clover will supply 7 lbs. The former needs 1 lb. of chlorine—a substance that forms 60 per cent. in common salt. Clover will furnish 7 lbs. Wheat (an acre) needs 16 lbs of lime. Clover will supply 70 lbs. Wheat needs 13 lbs. of magnesia. Clover will supply 18 lbs. Wheat needs 24 lbs. of potash and soda; (and an excess.) Clover will furnish 77 lbs. Wheat needs 121 lbs. of silica; of which clover can furnish only 15 lbs. Except silica, or sand, it will be seen that an acre of good clover yields all the several minerals needed by a crop of wheat: and some of the most valuable ones in large excess. In its *organic* elements, the supply is not less abundant.

	Carbon.	*Oxygen.*	*Hydrogen.*	*Nitrogen.*
Clover has in 3693 lbs.	1750	1396	185	78
Wheat crop, 3124 lbs.	1487	1262	171	32

"It is particularly worthy of note that clover yields more than twice as much *nitrogen* as both the wheat and straw require. It is proper to state that to make 3693 lbs. of perfectly dry clover, one must have 4675 lbs. of common clover hay. But in plowing in clover for wheat, we gain all the stubble and roots, in addition to what the scythe clips in mowing."

The editor of the Michigan Farmer, without so much as naming this journal at all, in his "prize essay on wheat culture," published in January, has made some professional reputation by following our language and ideas thus closely :

	Wheat.	*Clover.*
"Phosphoric Acid,	17 lbs.	18 lbs.
Sulphuric Acid,	2	7
Chlorine,	1	7
Lime,	17	70
Magnesia,	13	18
Potash and Soda,	24	77
Silica,	115	15

"Thus it appears that all these mineral elements, except sand, the clover plant supplies more than the wheat plant takes away, and one of them, which, perhaps, is the most important of all, viz: lime, it supplies four times the amount which the wheat crop requires. And these elements are drawn, to a great extent, from a depth where they previously lay in an unavailable state. There is a deficiency in the quantity of silica, or sand, which the clover plant furnishes, but in this there is no deficiency in our ordinary wheat lands, except that it exists there in an insoluble, and therefore unavailable state. But if the clover plant furnishes the material to dissolve it, it does the same thing as to supply it, and this is just what it does. Potash is the very element to bring it into requisition, and of this element the clover plant furnishes three times as much as the wheat crop requires

"While the clover thus largely exceeds the wheat crop in the mineral elements it contains, it also furnishes a somewhat larger amount of all the organic elements, drawn mostly from the atmosphere, viz: carbon, oxygen, hydrogen and nitrogen. Of nitrogen, the clover crop contains two and a half times as much as the wheat crop, and this is an element more frequently deficient in the soil, more difficult to be supplied, and, we may add, more important to make the other elements available, than, perhaps any other, although it is found only in the small proportion of 32 lbs. to an acre of wheat."

Had the Genesee Farmer been copied throughout the essay, the writer would have escaped the errors which impair the value of his performance. We must do him the justice to remark that he gives "Dr. LEE" credit for his analyses, but for nothing more.

In the "Supplement to the Prize Essay," which appears in the April number of the Michigan Farmer, the editor adopts our remarks almost verbatim, on the relative advantages of turning in clover with the plow to enrich land, and feeding it to domestic animals and applying the manure, without giving the least credit. What we had to say on the subject, was based on chemical researches, which cost both time and money, and for which we were paid nothing. After working several years in Western New York, we took, in 1847, a fair apparatus for the analysis of soils to Georgia, but did not realize enough to pay the breakage of glass-ware in getting it out and back to Washington, while two years in Augusta.

These facts are named, not in the way of complaint, but that our numerous readers out west (who are also readers of agricultural journals there which habitually throw stones at the Genesee Farmer,) may judge rightly of the motives of its assailants. We wish them all prosperity and shall never place a straw in their way. The closer they adhere to the teachings of this journal, whether with or without credit, the more prizes they will win.

NEW YORK STATE FAIR.—During the past month, JOHN DELAFIELD, of Seneca Co., President of the State Agricultural Society, Col. SHERWOOD, of Auburn, and J. B. BURNETT, of Syracuse, visited our city for the purpose of selecting ground for the next *State Fair*. They were entertained by a committee of citizens, who had designated several places as among the most eligible for the purpose. We were much gratified by this visit of these sterling friends of agriculture, and hope to enjoy their society often during the coming season. It is the intention of our citizens and the officers of the Society, to make the coming exhibition creditable to the Society, and to the reputation of the "Genesee Valley."

PREMIUMS.—In consequence of the early day at which we are compelled to put our paper to press, we are unable to announce our premiums this month as we intended to do. We are compelled to stereotype the Farmer before the 15th, and even with this arrangement some of our subscribers have too much cause to complain of the late arrival of their papers. The premiums will be awarded next month.

NEW YORK AND ERIE RAILROAD.—This invaluable work approaches its completion. Cars will soon run from Dunkirk, on Lake Erie, to the city of New York, save the ferry across the Hudson from Jersey city. The luggage or baggage of passengers will be checked through from New York to Cleveland, Toledo, Detroit, Milwaukie and Chicago. "Competition is the life of business."

MELANCHOLY DEATH OF JOHN S. SKINNER, ESQ.—Since our last paper went to press, JOHN S. SKINNER, Esq., the founder of the American Farmer, in Baltimore in 1819, (the oldest agricultural journal in America) met with an accident in that city which suddenly terminated his valuable life in the midst of its greatest usefulness. In going out of a room in the interior of the Post office, he unfortunately opened a wrong door and stepping out, fell into a cellar and received such injuries, a fracture of the skull and others, that he never spoke afterwards. The deceased was widely known and esteemed for his integrity, talents, industry, and lifelong devotion to the advancement of agriculture. His labors have been eminently useful to his country; and nothing but the lack of space prevents us from expressing, at much greater length, our appreciation of his worth as a man, and distinguished services as an agricultural writer. At the time of his death he was editor and proprietor of "The Plow, the Loom and the Anvil," published in Philadelphia.

DEATH OF GOV. ISAAC HILL, OF NEW HAMPSHIRE.—Mr. HILL, founder of the "Farmer's Monthly Visitor," and an agricultural writer widely known, has died, in Washington city, of a pulmonary complaint, within a few weeks of the present writing. As a political journalist and Senator in Congress, he acquired a national reputation. As an agriculturist, his efforts were well directed and reasonably successful.

WORK FOR THE MONTH.—May is one of the busiest months in the year with farmers. It is seed time in all the northern States; and such as would enjoy the blessings of generous harvests must plant and sow in due season. All the manure one can reasonably command should be placed in the soil, and within reach of the roots of growing plants. The skilful use of manure is a matter of great importance, especially that of never spreading too little, nor too much, on a given area of land. The right quantity per acre to secure the largest return, is a mooted point among practical cultivators. That question settled, the depth at which manure should be covered is another question about which men differ in opinion. Four to six inches is the depth generally preferred, so far as we are informed.

It is much to be regretted that all the manure wasted in cities and villages, which is so much needed to give crops a start in May and June, can not be carried in the country and used. The tillage of much poor land that might be fertilized, is a serious public loss. To lessen this as far as practible, every farmer should cultivate his soil in the best practicable manner. His plowing, harrowing, planting and hoeing, must be so thoroughly done that his crops will enjoy every element of food which the ground really contains. To secure this advantage is the work for May. If one had a few tons of well-prepared nightsoil to nourish young corn, oats, barley, peas, beans, potatoes and other cultivated plants, it would probably double his harvests. But the science of agriculture is too little appreciated in this country for much to be done in the way of preparing the raw material of crops in a concentrated and portable form. We shall waste at least $100 000 worth of the best manure, in Rochester, in the the year 1851, which, by contaminating the air, and perhaps poisoning the water taken into the human system, will doubtless carry sickness and death into scores of families. Time and the good examples of the wise will remedy this obvious folly. To impoverish the soil in the country, and saturate the earth in cities with the contents of the vaults of privies, is the labor of millions.

In consequence of the unprecedented increase of our circulation, now nearly forty thousand, and the time required to print so large an edition, some of our subscribers complain that it is late in the month when they receive their papers. To remedy this evil, we have ordered another press, and by the issue of our next number we hope to have our business so arranged that every subscriber can read the Farmer by the first of the month. Communications and advertisments so crowd upon us that we think we shall be compelled to enlarge, by adding eight more pages, and this we shall do without additional expense to subscribers. To meet this increased cost, we depend upon our friends, who have done all that we have asked, and more than we could expect. Still each subscriber might introduce the Farmer to some neighbor or friend, and with but little exertion on the part of those who now take the Farmer, our circulation could be doubled. We can at all times supply back numbers from the 1st of January. Additions may be made to clubs at the lowest rates—*three shillings*.

ADVERTISEMENTS, to secure insertfon in the Farmer, must be received as early as the 10th of the previous month, and be of such a character as to be of interest to the farmers. We publish no other. Terms—$2.00 for every hundred words, each insertion, *paid in adaance*.

S. W., and a number of other articles from correspondents, were received just as we were going to press, and will appear next month.

M. SHEWAN & Co., Booksellers, St. Lawrence Arcade, Toronto, Canada West, will take subscriptions for the Genesee Farmer.

Imported Consternation.

THIS celebrated thorough bred Horse will stand the present season, as heretofore, at the farm of the subscriber, two miles west of SYRACUSE.

In order that farmers, of the most limited means even, may be enabled to breed from this valuable horse, the subscriber has consented to offer his services at the extraordinary low price of $7.00—payable in advance in all cases—reserving the right to reject mares that are deemed unsuitable. Pasturage, well fenced and well watered, at three shillings per week. Mares to be entirely at the risk of their owners. J. B. BURNETT.

Syracuse, May, 1851. [5-3t]

Osage Orange,

FOR Hedges, price $1 per quart, just received at the Rochester Seed Store, No. 29 Buffalo street,

May, 1851. J. P. FOGG & BROTHER.

A New Work on Fruit.

CHARLES SCRIBNER (late Baker & Scribner) has in press, and will publish early in April,

"THE FRUIT GARDEN,"

A Treatise intended to illustrate and explain the Theory and Practice of all operations connected with the Propagation, Transplanting, Pruning and Training of Orchard and Garden Trees, as Standards, Dwarfs, Pyramids, Espaliers, &c., the Laying out and arranging different kinds of Orchards and Gardens, the Selection of Suitable Varieties for different purposes and localities, Gathering and Preserving Fruits, Treatment of Diseases, Destruction of Insects, Description and Uses of Implements, &c., *Illustrated with upwards of One Hundred and Fifty Figures*, representing the Different Parts of Trees, Practical Operations, Modes of Training, Designs for Plantations, Implements, &c. By P. BARRY, of the Mount Hope Nurseries, Rochester, N. Y. 1 vol. 12 mo.

SUMMARY OF CONTENTS.

PART I. Describes the different parts of Fruit Trees—Roots, Stems, Branches, Leaves, Blossoms and Fruit; explains their different Characters, Functions, and Practical Classifications. It treats, also, of Soils and Manures, of the best Modes of Propagation, and the General Principles and Practice of Pruning.

This Part is a new feature in Treatises of this kind, and is intended to be the ground-work of all the operations of culture.

PART II. Treats of the Propagation and Management of Trees in the Nursery in detail, both Standards and Dwarfs, beginning with the Stocks and ending with taking up the Trees. The various kinds of Stocks, their particular Uses, &c., are all correctly described.

PART III. Treats of the Laying Out and Arrangements of different kinds of Orchards and Fruit Gardens, the selection of Trees and of varieties, Planting, Pruning, and Training of Standards, Dwarf, Pyramids, and various other forms, in a manner calculated to furnish important information much sought for at this time.

PART IV. Contains Abridged Descriptions of all the best Fruits of well-established merit, with selections for various purposes and localities and lists of new and promising varieties; also, a Chapter on Diseases and Insects; another on Gathering and Preserving Fruits, and one on the more important Implements used in Fruit Culture. CHARLES SCRIBNER,

No. 36 Park Row, and 145 Nassau St., New York.

April, 1851.

Wayne County Agricultural Warehouse & Seed Store.

E. C. WILDER & CO., Dealers in Hardware, Iron, Stoves, Hydraulic Rams, Lead Pipe, Horse Powers and Separators, Reaping Machines of latest improvement, Eagle Plows, Cast-iron beam do, Vegetable Cutters, Hay Cutters for hand or horse power, and Agricultural Implements of every variety. Paints, Oil, &c.

Palmyra, May, 1851. [5-3t]

Eagle Plows.

WE are now receiving 150 Premium Massachusetts Eagle plows which we offer at 25 per cent. less than ever before sold in Rochester. Farmers are invited to call and examine them. We have a plow-room 80 by 60 feet, expressly for exhibiting Plows and Cultivators. J. P. FOGG & BROTHER,

May, 1850. Opposite the Arcade, Buffalo st.

Bone Manure.

A VERY superior quality of Bone Dust, finely ground and warranted pure, is now prepared at the "Eagle Manufacturing Co." for Farmers and Gardeners. It is perfectly dry, will be packed in tight barrels, and warranted to keep sound in any climate. Apply to ALFRED F. KEMP,

[5 1t*] 62 Beaver street, New York.

Gardening and Farming Tools,

SUCH as Shovels, Hoes, Spades, Forks, Garden Reels and Lines, Transplanting and Weeding Trowels, Floral Rakes, Hedge Shears, and other articles too numerous to mention, for sale at the Monroe Seed Store and Agricultural Warehouse, No. 68 State street, by BRIGGS & BROTHER.

Garden and Field Peas.

SEVERAL choice varieties—some new kinds—of imported Garden Peas. Also, a large lot of Canada Field Peas, of extra quality, just received at the Monroe Seed Store and Agricultural Warehouse, 68 State st. BRIGGS & BROTHER.

600 BARRELS of Bone Black, or Burnt Bones ground, at $2 per barrel. For sale by G. H. BARR,

Publisher of the Working Farmer.

[5-3t] No. 25 Cliff street, New York.

PROUTY & MEARS' CELEBRATED PREMIUM CENTRE DRAUGHT PLOWS. A large assortment can be found at the State Agricultural Warehouse, No. 25 Cliff street, New York.

[5-3t] G. H. BARR.

Seed Planters.

EMERY'S and Platt's for sale at the Monroe Seed Store and Agricultural Warehouse, 68 State street, by

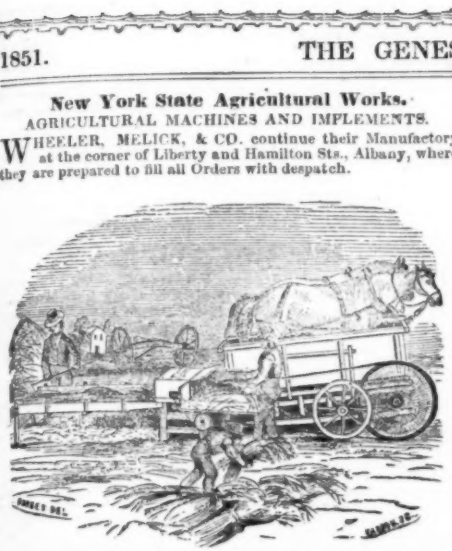
May, 1851. BRIGGS & BROTHER.

SEED DRILLS.—Emery's Improved Seed Drills, the best in use, for sale by J. P. FOGG & BROTHER.

New York State Agricultural Works.

AGRICULTURAL MACHINES AND IMPLEMENTS.

WHEELER, MELICK, & CO. continue their Manufactory at the corner of Liberty and Hamilton Sts., Albany, where they are prepared to fill all Orders with despatch.



Orders for WHEELER'S PATENT RAILWAY CHAIN HORSE POWERS, and OVERSHOT THRESHERS & SEPARATORS, will receive their prompt attention. The large and increasing demand for these Machines, has induced the proprietors to erect a new and spacious Manufactory, and otherwise extend their means of promptly filling orders. Their Powers and Threshers have been sold in nearly every State in the Union, during the past year, and their superiority has been acknowledged by numerous testimonials, not only from Agricultural Societies but from persons who have used them. They have been awarded the first premiums at all the principal Fairs where they have been exhibited in operation, including the Pennsylvania State Fair, the Provincial Fair of Upper Canada, and the Michigan and Ohio State Fairs together with numerous County Exhibitions in the different States.

The Two Horse Machine with from three to five hands, will thresh from 125 to 200 bushels of Wheat per day, or twice that quantity of Oats.

The One Horse Machine will thresh rather more than half that quantity.

PRICE AT ALBANY.

For Two Horse Machines, ... $145 00
For One Horse Machine, ... 120.00

Machines will be shipped to order to any part of the United States or the Canadas.

The subscribers are now shipping Powers and Threshers to their agents on the Mississippi and Ohio rivers, and in the interior of the States bordering on those rivers, and to all the principal ports on the Lakes, as well as to their numerous agents in the interior of the Lake States. They will be delivered at all our agencies with only the cost of transportation added to our home prices. Persons wanting to purchase, may, by writing to us, learn where they can obtain our machines most conveniently.

N. B.—Our Machines *are warranted*, as heretofore, *to work to the satisfaction of the purchaser*, or they may be returned within sixty days after they are received, and the purchase money, if paid, will be refunded.

We want a few more agents in most of the States. To competent men, who can give satisfactory references, liberal commission will be allowed. WHEELER, MELICK & CO.,

Corner of Hamilton and Liberty Sts., Albany, N. Y.
(Near the Steamboat Landing.)

For sale by J. RAPALJE & Co., at the Genesee Seed Store and Agricultural Warehouse, 65 Buffalo St., Rochester, N. Y.

CAUTION.

The subscribers, Patentees of *Wheelers Patent Horse Powers*, having noticed that an Agricultural Firm is advertising that Wheeler's Patent Horse Powers and Overshot Threshers are manufactured and sold by them, when in fact they have not obtained from us any liberty to use our Patent, we hereby caution all persons that said firm has no right to use our Patent, or to manufacture or sell said Horse Powers, and that a sale by them will confer no right upon the Purchaser to use such Power.

Messrs. WHEELER, MELICK & CO., of Albany, and their Agents, are the only persons authorized to make or sell *Wheeler's Patent Horse Powers*; and every such Power made or sold by them, or by any person having a License to do so, has upon one of the Cast Iron Semi-Circles at each end of the Power, the words "WHEELER'S PATENT—WHEELER, MELICK & CO., MAKERS, ALBANY, N. Y."

A due attention to this fact will enable purchasers to avoid imposition and fraud.

No person or firm in Albany, except Wheeler, Melick & Co., is authorized to make or sell said Horse Powers.

Albany, April, 1851. A. & W. C. WHEELER, Patentees.

Great Sale of Superior Thorough-Bred Short Horn Cattle.

THE subscriber having more stock than he can well sustain on his farm, will offer at Public Auction about THIRTY head of his Improved Short Horn Cattle, consisting of Bulls, Cows, Heifers and Bull Calves, on the 26th day of June next, at his farm 2½ miles from this city.

It is known to breeders of improved stock, in this country, and in Canada, that the proprietor of this herd during the past 12 years, has through the medium of importations from England, and selections from the best herds in this country, spared no expense to rear a herd of cattle from which superior animals could be safely drawn for improvement and crosses upon other breeds. His importations have been derived from that eminent breeder, the late Thomas Bates, Esq., of Kirklevington, Yorkshire, England, which herd it is well known has recently been disposed of at public sale by his administrators, and dispersed into many hands, and can no longer be resorted to as a whole, for improvement. The announcement of that sale created great interest, and all Short Horn breeders in England seemed emulous to secure one or more of these animals to mingle with the blood of their own herds, and at the day of sale, there was found assembled the largest audience ever before witnessed upon a similar occasion, numbering, as was said, from 4 to 5,000 persons, and among them the best breeders in England, and several from other countries. Some of the animals brought prices which seemed incredible to many.

In the herd now offered for sale, will be included the Imported Bull, Duke of Wellington, and the premium Bull, Meteor. These are Bates' Bulls, and their reputation as stock-getters are too well known to need any comment. I am authorized to say by Lewis F. Allen, Esq., of Black Rock, one of the most prominent breeders in this country, and who has had ample means of forming a judgment, "That in no instance, to his knowledge, had these two Bulls been bred to Short Horn Cows of other herds, previously imported into the United States, but that their produce were superior in general qualities to such herds."

The most of the Stock which is now offered for sale, have been bred from these two Bulls; and the proprietor, having a young bull more remotely connected with that portion of the herd he retains, (being about 14 in number,) can spare these two valuable Bulls. There will be in the Stock offered for sale, 6 young Bulls, from 8 months old to 2 years, in addition to the two named above; and the remainder of the Stock will be composed of Cows, (most of them possessed of extraordinary milking qualities,) Heifers and Heifer Calves. It is believed that no herd of Short Horns has ever been offered for sale in this country, exhibiting more of the valuable combinations of qualities which contribute to make up perfect animals.

A Catalogue containing the pedigrees of these animals will be ready for delivery at an early period, in which the Terms of the Sale will be particularly stated. A Credit will be given from Six to Eighteen months. Gentlemen are invited to examine the herd at their convenience. GEO. VAIL.

Troy, N. Y., March, 1851. [4-3t]

Plows! Plows!! Plows!!!

A NEW SERIES OF PLOWS for deep tillage and laying flat or lapped furrows, lately got up by Ruggles, Nourse, Mason, & Co., after long and expensive experiments. Some of the Nos. of this series of Plows are described in an article on Plows and Plowing, by H. F. Holbrook, of Brattleborough, Vt., which has been published in the Albany Cultivator and in Nos. 67 and 68 of Moore's Rural New Yorker.

EAGLE PLOWS of different sizes, among which are the Eagle C and Eagle 20.

SUBSOIL PLOWS, different sizes, plain and full rigged. Also,

SIDE-HILL PLOWS, different sizes.

PLOW CASTINGS, such as mold-boards, land sides, and points, for all of the above Plows.

The above Plows and Castings will be kept constantly for sale by the subscribers, at Boston and Worcester retail prices, at the Monroe Seed Store and Agricultural Warehouse, No. 68 State st., where we would be pleased to have all those who take an interest in the improvement of the Plow, to call and examine our assortment whether they wish to purchase or not.

Rochester, May, 1851. BRIGGS & BROTHER.

Flower Seeds.

WE have received from England, since the first of March last, nearly 200 different varieties of Flower Seeds, selected from an English catalogue of nearly 500 different varieties, by gentlemen perfectly competent to make a good selection. We will put up and send to order, 20 papers of the choicest kinds, such as would make a good assortment for any Flower Garden, for $1—45 varieties for $2, and the same proportion for larger quantities. Description and directions for cultivation are given on each paper.

Please call upon, or address (post paid,) to

BRIGGS & BROTHER,
May, 1851. 68 State street, Rochester, N. Y.

Garden and Field Seeds.

WE have received from London, since the first of March, nearly two tons of the choicest Garden and Field Seeds—such as Cabbage, different kinds, Radish do., Turnip do., and Ruta Baga, &c., &c. Also White Dutch Clover, and Lawn Grass for lawns, door-yards, &c. BRIGGS & BRO., 68 State st.

TIMOTHY SEED.—400 bushels, of different qualities, just received, and for sale low by BRIGGS & BROTHER.

GREAT BOOKS

FOR FARMERS, GARDENERS AND HORTICULTURISTS,

AND A

RARE CHANCE FOR AGENTS TO MAKE MONEY.

JOHN P. JEWETT & COMPANY, Publishers, Nos. 17 and 19 Cornhill, Boston, take pleasure in announcing to the Intelligent Farmers, Gardeners, and Horticulturists of the United States that they have at length completed their valuable collection of works on Agriculture, and its kindred sciences, and that the two last of the series are now in the hands of the stereotypers, and will be ready for delivery to subscribers and others, on or before the first day of March. The two volumes now in press are, first—

BRECK'S BOOK OF FLOWERS,

By Joseph Breck, Esq., of Brighton,

For many years editor and publisher of the New England Farmer, and one of the most distinguished Florists in America. This volume contains the results of the practical experience of a man of taste and science, and is, without doubt, the most thorough and reliable book on the cultivation of flowers, and the laying out of flower gardens, to be found in any language; it is emphatically the Ladies' and Gentlemen's complete Floral Vade Mecum. This book will be in 12 mo. form, containing about 336 pages, fine cloth binding, and we have determined to sell it at 75 Cents, to bring it within the means of all, and to ensure a large sale; as it is a book which every lover of flowers must own.

The second in the series is—

THE KITCHEN GARDENER'S TEXT BOOK,

By one of the most distinguished Gardeners of New Jersey. This is truly a practical work, avoiding useless, and to the masses, unmeaning technicalities, the author handles his subjects with the skill of a thoroughly versed, common-sense practitioner. With the aid of this volume, the merest Tyro may rapidly advance through the various stages of Horticultural knowledge, to complete success. A simple, practical and cheap work on this subject has long been needed. The price of this book will be 50 Cents, —12 mo. 216 pages, handsomely bound in cloth.

The third book is—

A TREATISE ON HOT-HOUSES,

By Robert B. Leuchars, Garden Architect.

This work, by Mr. Leuchars, who is one of the most distinguished among the many Scotch Gardeners of America, is a practical treatise on the CONSTRUCTION, HEATING AND VENTILATION OF HOT-HOUSES, including CONSERVATORIES, GREEN-HOUSES, GRAPERIES, and other kinds of *HORTICULTURAL STRUCTURES*, with practical directions for their management in regard to LIGHT, HEAT AND AIR. Illustrated with more than *Seventy Engravings*. This is the first and only work of this kind ever published in this country or in Europe, and is recommended very highly by Professors Silliman and Dana, of Yale College and by many other scientific gentlemen. Price One Dollar. It is a very learned work, and an invaluable one to any person who owns, or who intends to erect, either of the structures upon which it so ably treats.

The fourth book is—

MR. COLE'S GREAT WORK ON

THE DISEASES OF ANIMALS,

OR THE AMERICAN VETERINARIAN,

30,000 copies of which have already been sold, and the sale of which continues in a manner almost without a precedent. To every man who owns a horse, a cow, a pig, or even a hen, this work by Mr. Cole is of more value than ten times its cost.

The lives of many valuable animals have already been saved by following Mr. Cole's plain directons for their treatment when sick. This is the cheapest work of the kind ever published in America, being but 50 CENTS at retail, and we do not believe that any farmer would willingly be without it, if placed within his reach.

The fifth book is—

MR. COLE'S OTHER VALUABLE WORK,

THE AMERICAN FRUIT BOOK,

OR, FRUITS AND FRUIT TREES OF AMERICA,

18,000 of which have been published in less than two years.

This beautiful and thorough work is illustrated by over 200 engravings, of Apples, Pears, Peaches, Plums, Cherries, Grapes, Raspberries, Gooseberries, Currents, &c., &c., and the various Fruit Trees of our own country; also, cuts representing the various modes of training vines, and the different styles of grafting, budding, pruning, &c. It is a work which, for accuracy of description and reliability, has never been exceeded, if equalled, and contains more than twice the amount of matter of any other Fruit Book published in America at the same price, viz: 50 cents. We could fill a volume with the recommendations of Mr. Cole's two books, which we have received from the most eminent Farmers and Horticulturists of New England, the Middle States and the great West.

A WORD NOW TO AGENTS.

We are now prepared to offer to capable, responsible and energetic Book Agents a chance for making money, such as seldom occurs. With the above five works, an Agent of tact or ability could hardly fall upon a spot so barren that he could not dispose of one or more of these works, and in many cases would sell one of each; and in populous districts, a large number of copies could be sold daily. We intend to district out the New England States, mostly into counties. Also, the States of New York, Pennsylvania, New Jersey, Ohio and the Western States, we should prefer to dispose of to some one individual in each State, for him to district out into sub-agencies.

The books will all be ready for delivery by the 1st of March, and it is important that the various Counties and States should be disposed of before that time. A cash capital of from $30 to $50 will be needed by every Agent for a County, and a much larger sum by a State Agent.

Address, post-paid the Publishers,

JOHN P. JEWETT,
17 & 19 Cornhill, Boston

DOMESTIC ANIMALS AT AUCTION.

THE postponed yearly sale of Full Bred Short Horns and Improved Dairy Stock, consisting of about fifty head, will come off at my farm on Tuesday, June 24th, 1851, at 12 o'clock, M. I shall dispose of all the improved Dairy Stock, which is composed of the finest Short Horn, with a slight cross of Amsterdam Dutch, which some writers say was part of the original ingredient which composed the improved Short Horns.

I am now breeding Short Horns, Devons and Ayrshires, each separately and pure, which, owing to the limits of my farm, make it necessary to confine myself to those three breeds. By the awards of the State Agricultural Society, the American Institute, and my own County Society, (with the exception of last year, when I was not a competitor at either,) it will fully appear that I have been a very successful exhibitor. The Cow which won the First Prize as a milker, at the American Institute last year, was bred by me, and composed of the above alluded to Dairy Stock. Several of the Bulls got by Lamartine will be of the most appropriate age for efficient service the coming season. All Cows and Heifers old enough, will be warranted in calf at the day of sale, by my imported Bull, Lord Eryholme, or my celebrated Bull, Lamartine.

I own two thorough bred Devon Bulls; one the celebrated old Major, the other, one and a half years old, imported by me from Devonshire. One of the above animals will be sold—which, I have not yet determined.

A full Catalogue, with the pedigree of each animal, will be published in due time, with minute description of sale, &c.

I also have a number of Suffolk Sows, in pig to my imported Boar, most of the progeny of which will be old enough to dispose of on that day.

I also have about 20 South Down Ewes, most of which I imported from the flock of Jonas Webb, and now in lamb to my imported Buck, Babraham. Some of the Buck Lambs will be offered at auction on that day.

This sale will not only offer an opportunity to obtain Stock from my previous herd, but will also enable persons to procure calves from my imported Bull, lambs from my imported Ram, and pigs from my imported Boar—all of which animals were recently selected by me in person, when in England.

The mode of warranting the Cows and Heifers in calf, is this: in case they prove not to be so, it shall be optional with the purchaser, on his *certificate of that fact*, either to receive from me $25 (say twenty-five dollars) or to send the cow to my farm, and I will keep her the proper time (free of expense) to have her got in calf to either one of my Bulls, which he shall choose. I will give $25 for any Heifer calf from either of the Cows or Heifers sold at the sale, delivered on my farm, at two weeks old.

Stock purchased to be sent at a distance, will be delivered on ship-board or railroad in the city of New York, free of risk or expense to the purchaser.

Persons living at the South, in a climate to which it would not be well that stock should be transported at that hot season of the year, may let such animals as they may purchase, remain with me until the proper season, and I will have them well taken care of, and charge only a reasonable price for their keep. One of my objects in breeding improved domestic animals, is to assist in distributing them throughout the Union, deeming it one, if not the most important feature to promote profit to the cultivator of the soil, and to benefit the consuming country at large.

All communications through the Post please pre-pay, and I will pre-pay their answers, and also a Catalogue if required. Catalogues will be to be had at all the principal Agricultural Warehouses and offices of the principal Agricultural Journals, on and after the 1st day of June next. Persons wishing to view the stock at any time, will find my superintendent, Mr. Wilkinson, to give them the desired information when I am at not at home.

Dated, this 4th day of March, 1851, at Mount Fordham, Westchester County, eight miles from the City of New York, by the Harlem Railroad. [4-3t] L. G. MORRIS.

Farm For Sale.

AN IMPROVED FARM of about 100 acres of excellent land, for only Twenty dollars per acre.

Said Farm lies within one mile of the beautiful and thriving village of Adrian, Lenawee Co., Michigan, on the line of the great Southern Michigan Railroad, running from Monroe and Toledo direct to Chicago, and from thence to the Mississippi river, connecting also with the Road running round the Southern shore of Lake Erie, till it meets the New York and Erie Railroad.

On the Farm is a two story dwelling house, considerable fruit, and living springs that never freeze and never dry. It is unquestionably worth, and will soon command, Thirty dollars per acre.

I will take one-fourth the purchase money down, and the balance in three annual payments.

For further particulars enquire of W. S. Wilcox, Adrian, or of the subscriber, at Lafayette, Indiana.

April, 1851. ANSON TUCKER.

Thorp, Smith, & Hanchett,

PROPRIETORS OF THE SYRACUSE NURSERIES,
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CULTIVATORS of, and Dealers in, all kinds of Fruit Trees, Ornamental Trees and Shrubs, Green House Plants, Bulbous Roots, Hedge Plants, Seedlings, &c., &c., offer for the spring sales

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☞ Persons favoring us with their orders shall have no cause to complain of the quality of any articles sent them.

☞ Catalogues sent gratis, as usual, to post-paying applicants.

N. B.—T., S., & H. have formed a partnership, under the firm of THORP, SMITH, HANCHETT, & Co., to take place in May next, with Mr. A. FAHNSTOCK, a skillful, practical, and intelligent nurseryman and propagator, who will superintend the management of the Green-House department, which they design shall constitute, henceforth, an important feature in their business. By this arrangement, they become joint proprietors with him in the "Augusta" Rose, an acquisition to the floral world which is destined to create a marked sensation. It will be sent out in the Spring of 1852. [4-2t]

Genesee Valley Nurseries,

BY A. FROST & CO.

SOUTH SOPHIA STREET, ROCHESTER, N. Y.

THE proprietors of this establishment wish to call the attention of Nurserymen, Fruit Growers and Amateurs to their present stock which is partly embraced in the following:

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All of the above trees are worked with the choicest and newest of their respective kinds, and are remarkably thrifty and well grown. Gooseberries, Raspberries, Strawberries, Currants, &c., all of the newest, and the most of lately imported kinds.

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The above plants will be packed carefully and left at any of the Freight Offices in the city, according to advice, without an extra charge.

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☞ Office: No. 47 Exchange street. [4-2t]

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Also, a good assortment of Pears on their own roots, and on Quince for Dwarfs; and Cherries, Peaches, Apricots, Gooseberries, Currants, Raspberries, Ornamental Trees, Shrubs, Roses, &c. &c. Also a quantity of Buckthorn for hedges.

All of the above articles can be furnished of good quality, and as reasonable as at any Nursery in the State.

Catalogues sent to all post-paid applicants.

S. S. GRAVES.

Auburn, N. Y., March, 1851. [4-2t*]

Monroe Nursery.

THE subscriber deems it almost superfluous to publish an advertisement at this time, from the fact that his Nursery is so universally known; yet he would beg leave to say to his friend and the public, that his experience as a Nurseryman of eight years is certainly some guaranty that the articles purchased of him would be correct and adapted to modern cultivation. Of the different fruits, he only cultivates a few varieties, such as has been proved and acknowledged to be the best.

He has a good stock of Apple, Pear, Peach, Apricot, Grape Shrubs, Tuberous, Bulbous and green-house plants at reduced prices. Dahlias also of latest varieties.

Greece, March 1, 1851. [3-3t.] CHAS POWIS.

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WILL stand, the present season, on Fridays and Saturdays at the stable of Lewis B. Baldy, Seneca Falls, and all other days of the week at the stable of the subscriber, two miles south-east from Clyde.

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Persons wishing to inquire respecting these horses, are referred to Messrs. Hiram Woodruff, Auburn; John L. Hubbard, Waterloo; D. W. Colbin, Geneva; Ab'm Parish, Batavia; and many other gentlemen who know them and their stock.

ISAAC M. GILLET.

Clyde, N. Y., March, 1851. [4-2t*]

Farm For Sale.

THE subscriber offers for sale his Farm which comprises 84 acres, 60 of which is in a good state of cultivation, 2 acres Orchard, planted with choice Fruit Trees—Peach, Apple, Cherry, &c. And 22 acres of Timber Land, 9 acres of which are nearly cleared and easily got under cultivation this Spring.

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Raisin, near Tecumseh, Mich.,

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April, 1851. [5-1t]

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